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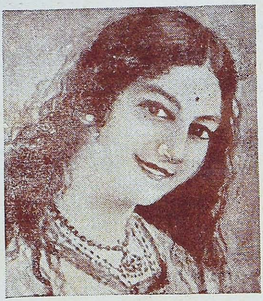

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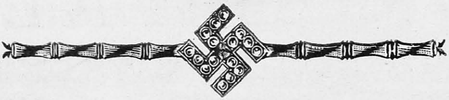

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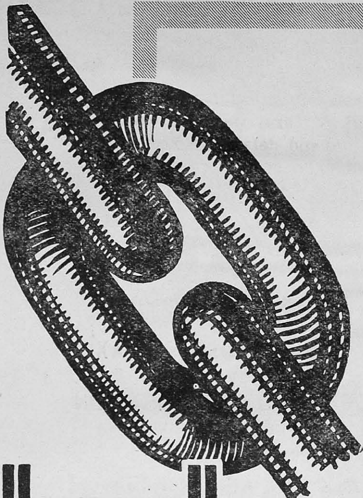

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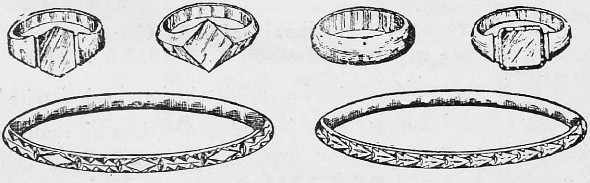

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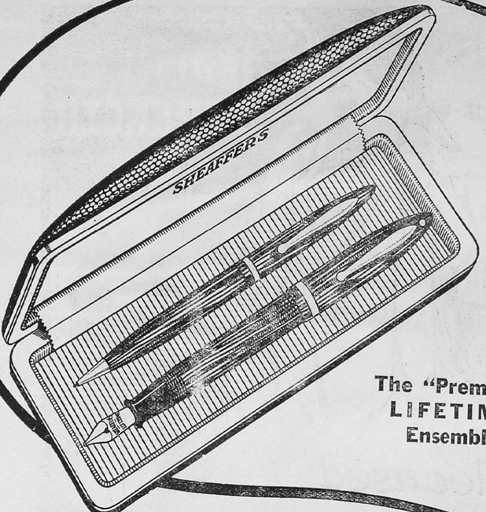

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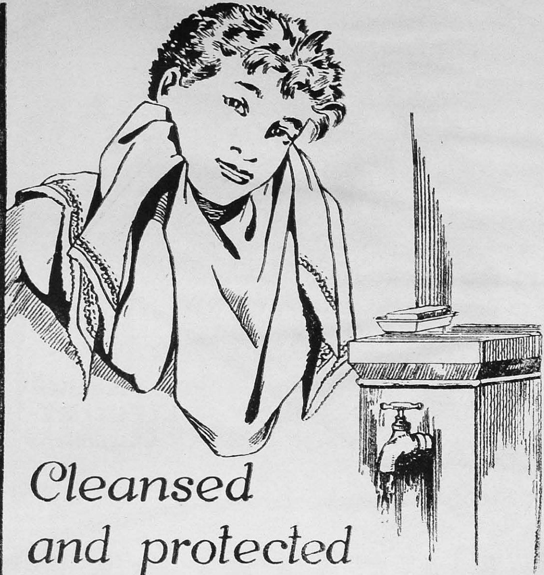

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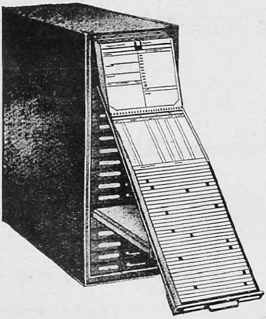

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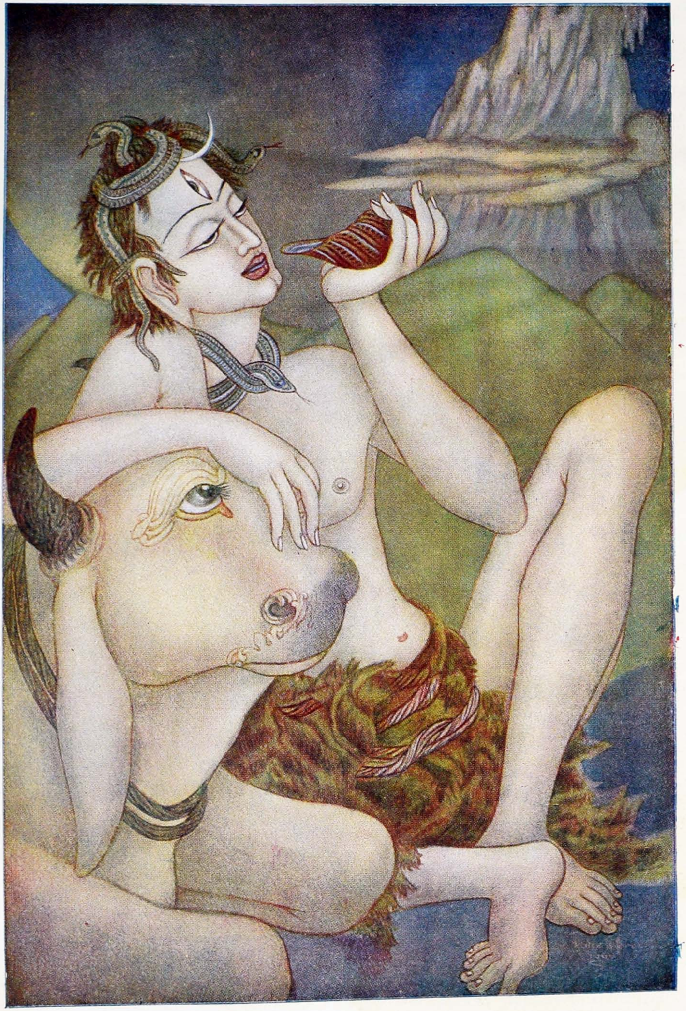

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Almost all the Hindu puranas and epics, and the many stories and characters treated therein, are not mere fanciful descriptions of grotesque personalities and incidents, but symbolisms representing great religious truths and other natural and scientific phenomena. The churning of the milky Ocean is one such symbolism. It has two interpretations ; one regarding the evolution of the Cosmos, the material Universe as we see it, and the other respecting the evolution of the ordinary human being into the highest spiritual soul, enjoying the highest bliss.

In modern science has been recognised a theorey that the Universe has been evolved from the primordial matter, called protyle, which in course of thousands of centuries of dormant inactivity, begins to have a rotatory motion round a solidifying central axis. Round this axis is formed a spiral-like coil, which sets the whirling motion in it and also gives it a cooling effect. It is in the course of this process that the various objects of this Universe, including life, begin to manifest themselves one after another.

It is more or less this process of evolution of the Universe which has been represented symbolically in the churning of the Ocean. It will be plain that the milk represents the primordial matter, and Mandara, the churning-rod, the central axis. The serpent Vasuki, which also represents endless time, is the coil round the axis, pulled in opposite directions by the positive and negative forces, the Devas and Asuras. The things evolved may be identified as water, the stars, the Earth, the Clouds and lightning, Energy, Life, Sun, light and soul. God Siva who, in the Hindu Trinity, represents the force of disintegration and destruction is made by God Vishnu, the Life-giving active force, to drink the poison of Halahala,—in other words to retain the force of destruction latent, and the mighty process of evolution and creation continues.

As regards the second aspect, viz. of the evolution of the individual soul-the churning represents the tug-of-war between good and evil passions, The nectar of life or the highest bliss is obtained by the control of the passions, which in its turn can be secured by the practice of Yoga. The mind represents the Ocean of milk, and the churning itself is the practice of Ashtanga Yoga. The Goddess Jyeshta, the second outcome of the churning, is the inherited character of the individual in former births; and the poison that corrodes life is the desire to enjoy worldly pleasures. The various other objects evolved have also their respective symbolic interpretations.

In this latter view, Siva symbolically stands for the perfect and ideal Yogi. He has under his control the big bull Nandi which represents creative force as well as mundane enjoyment of pleasure, and on this bull he usually rides. To those who worship Siva, i. e., to those who are eager to realise the supreme truth by the practice of Yoga, this huge bull lies in front of his Master Siva, hiding Him from the view of the devotee.

God Siva drinking the virulent poison and retaining it in his throat represents the great truth that the Karma Yogi, who enjoys the material pleasures like other ordinary human beings, is not in the least affected by these pleasures, the poison emanating from the enjoyment of worldly actions being consumed by the fire of wisdom,--the true realisation of the soul.

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"As the kindled flame transforms the fuel into ashes, thus, Oh Arjuna! does the fire of Wisdom transmute all deeds into pure ashes." *Gita IV. 37.* G. S. S.

THE SCHOLAR

ANNUAL NUMBER 1939

Vol. XV. *No. 1.*

To Our Readers.

Another year has gone by in the life of *The Scholar* since we addressed our readers last. With this number, *The Scholar* begins the fifteenth year of its life. We take this opportunity to express our deep gratitude to our subscribers, contributors and advertisers, and we trust that their patronage will be continued in future also. We are aware of the short-comings of the journal and of the many lines in which improvements are possible and desirable. It is to be regretted that the year that has gone by has not seen any decided improvement in the fortunes of the journal. But its greatest asset—the good will of its patronisers—has been uniform and hence the fact that *The Scholar* has survived fourteen years of life and begins the fifteenth with hope and confidence.

As we look on the year that has opened before us, we find a world in travail. The theory of force has come to its logical conclusion. Nations professing peaceful intentions and persuading disarmament of neighbours while themselves arming frantically have demonstrated the absurdity and tragedy of the age-old theory and realise in all its bitterness the fact that armed force brings neither peace nor prosperity, exhausts both victor and vanquished and, far from settling disputes, only breeds them. The war that began with Poland spreads on and on with little chance of a speedy termination. The loss in men and

money is already stupendous, but still the salvation of the nations is not in sight. Russia, which was supposed to be a heaven for the masses as against the few, has been a painful surprise these recent months, and her high idealism which inspired a boundless enthusiasm in the younger generation has been found lacking in stability. It was bound to be so; for peace and armament go ill together.

The situation in our country also has been far from satisfactory. With a lack of imagination that would be astonishing if it were not so tragic, our rulers have declared India a belligerent even without the pretence of a consultaion, thus making the functioning of Provincial Autonomy farcical. The result has been the resignation of the Congress Ministries and the suspension of their useful and beneficent activities which had elicited world-wide appreciation. An irresponsible beaurocracy has taken charge of the Congress-governed provinces again and the subsequent happenings by way of Viceregal consultations and declarations in Parliament have not only not eased the situation and shown a way out but have had the indirect effect of intensifying the communal differences and we have the spectacle of minorities trying to dictate to the majorities and putting forward demands which are neither justifiable nor possible of achievement. Let us hope wisdom will dawn on Britain and enable her to do the just thing by India, which will then be able to settle all internal differences to everybody's satisfaction.

The present situation in the world, bad as it is, has been a blessing in disguise, at least in showing the futility of securing world peace by violence and trial of strength. Gandhiji has endeavoured through his life-time to show the world that the way of peace does not lie through the path of violence. The theory of might and material has ended disastrously. Violence and hatred have had their day. It will be wisdom for the world now to hearken to India's call and give a fair trial for non-violence which is her special contribution.

Only by the churning of the ocean was nectar produced. And only by discussion can the truth of things be discovered. We extend an invitation to all educated sons and daughters of India to make their contribution for the public weal through the pages of *The Scholar* and we hope they will respond to the invitation in an ever increasing measure.

MESSAGE

FROM

DEENABANDHU C. F. ANDREWS

It is impossible for me, in my present state of health, to write more than a word to "The Scholar," in order to send my good wishes. It is of vital importance to keep up, at a high standard, literature of this kind among the rising generation and I congratulate the Editor and those who work with him on the excellence of the magazine for which they are responsible. In the coming days, when the whole world is threatened by the brute forces of war, carried on to the extreme limit of barbarity, it is all the more important to sustain efforts that keep before men's minds the spiritual aspects of human life. We must never let them decline; because on them more than anything else depends the future progress of the whole human race. I wish "The Scholar" every blessing and success.

C. F. Andrews

Song To a Wild Flower

At PONMUDI, TRAVANCORE.

Here, in wide realms of space,
Three thousand feet enskied,
(Archaean hosting-place
Of mammoth petrified
In sleeping flocks—
Or so appear these rocks),
You stand, one tiny, true,
Home-keeping denizen
In nature's rendezvous
Far from the haunts of men ;
Bearing, no doubt, a name
Writ in sonorous Latin
That, could I whisper it,
Would make a little flame
Of fairy laughter flit
Across your eye's blue satin.

I have this morning seen
Foraging cattle pass
Head-down in quest of green
Undecorated grass,
Nor lift enquiring horn
Responsive to your spell
But give you bovine scorn,
Being inedible.
Yet be this not deplored
As unrewarded waste.
Beauty that is ignored
Is beauty undefaced.
Beauty that men have praised
Is as the hunter's prize.
Sweet, I on you have gazed
With undesiring eyes.

If that be poor reward
For your accomplishment
Of perfect loveliness,
Know that these other eyes
That gaze on you,
Dark brown by blue,
Being as kind as wise,

Ungrudgingly accord
Praise like to that they spent
When, after days of stress,
Up through life's tangled weed
In my heart's garden sprang
A flower that sang.
Her praise is praise indeed.

If even that be less
Than perfect thankfulness
For perfect beauty given,
Then would I have you know
God's laud is in that glow
On breaking mist
Most eloquently scriven--
Unless it chance
Your sudden subtle glance
Signals in cryptic speech
Whose esoteric gist
My inner ear can reach,
That, since your flowering is
Seen end of unseen cause,
Climax decreed,
You have no need
Of her or my applause,
Or even His ;
Having supreme reward
In your own life's accord
With oracles that run
From sod to sun,
Setting the law in each
Of its authentic speech—
Even as I too make
This song for song's own sake.

—*James H. Cousins*

Space is Crying

By NICHOLAS ROERICH

IT was recently reported that in a certain city in Europe such a powerful radio station was built that it suffocated many other stations. It may seem that there is nothing extraordinary in this because radio stations may be built of various degrees of power. But this news is significant because it indicated that a new kind of warfare in space is taking place. Humanity has used the latest inventions mostly for murderous purposes. The crying of the radio can thunder across the world and draw attention to various inhuman cruelties. But somebody wants to stifle such spatial complaints. Apparently someone is trying to take space itself by the throat and prevent news that is undesirable for himself. Such violence against space is most significant. It is difficult to imagine what can take place if humanity is to become accustomed to such a form of violence. Fools will pretend that against a powerful station one can build a far stronger one, but then where would such a Marathon of mutual strangling end? It would be wrong to imagine that space can contain an unlimited amount of energy. But no one can say that these doses of energy can be unlimited. It is apparent that stronger energies swallow up the weaker ones. Let us extend this idea and in progression we shall witness a horrible war in space. No one can foretell the consequences of such a war. No one can know to what an extent space can be violated and poisoned. One thing is clear—that people in mutual hatred can evoke most horrible destructive energies. If at the moment no terrible explosion and no pernicious epidemics take place it does not mean that they may not occur later. People again accuse solar spots as being the cause of all their own follies. Science is ahead of human psychology. Science has already plunged itself into the ocean of new dangers arising from misuse of energies. Light-mindedly people try to poison and violate beneficial life-giving space. Whither will such progress lead?

In the times of Akbar the Great it was forbidden under grave penalty to sell unstable colours. And ancient Shastras also insisted on the high quality of paints. It would seem that since then world civilization should have improved the quality of materials. But it seems civilization pursues some other aims. It has forgotten the humanitarian sciences and rejected the ideas of stability of materials. It is strange but true that some new models of machinery are far less stable than previous models. As regards artists' materials they have many new enemies, created by the same "civilization". Thus for example many colours do not stand sulphur vapour and other chemical emanations,

with which the atmosphere of modern cities is saturated. Instead of protecting health we can witness an inadmissible waste. In Paris avenues certain kinds of trees perished from petrol fumes. One can imagine how similar chemical gases react badly upon health and articles of human production, especially delicate masterpieces of art. King Louis of France became immortal by the cynicism of his utterance: ***Apres nous-le deluge*** ("After us let there be the flood!"). Unfortunately this principle is applied in many domains of modern life. With hypocritical modesty you may be told: "It is not for us to worry about the stableness of our creations; let time itself be the judge". Yet those who say so understand very well that the bad quality of material, of which they are aware, deprives the next generation of its just heritage. Not from egotism, but in the name of wise care should we safeguard what belongs to youth, for we work for the future. Archaeology often gives remarkble examples of the stability of materials. We are grateful to unknown builders who have left for us a beautiful heritage which humanity can enjoy throughout milleniums. It may be said that it is not known how long our planet will exist altogether. Amongst astronomical and cosmical considerations there seems no place for the question of the stability of earthly materials. But as long as our old earth exists, it is necessary to think how it is possible to improve materials and avoid poisoning of space.

Is the Qutb Minar a Hindu Monument?

By Dr. NANDALAL CHATTERJI, M. A., Ph. D.

TRADITION asserts that the Qutb Minar was originally begun by Prithviraj for the sake of his daughter. The latter, it is said, was so devout that, each morning, before taking her food, she would go to the Jumna to perform her morning ablutions, offer prayers to the sun, and, after the custom of Hindu ladies, to moisten with the river water her necklace of nine auspicious stones. But the journey was exceedingly tiresome for a princess, and at last the Raja persuaded his daughter to be content with a sight of the distant river and, therefore, commenced building this tower to enable her to catch a glimpse of the river every morning.

This picturesque legend has obtained unexpected support from certain authorities, of whom Mr. Beglar, assistant to Sir A. Cunningham, and Sir Syed Ahmed are the most notable. The arguments advanced in support of the theory as regards the Hindu origin of the Minar are extremely interesting and may be briefly indicated here.

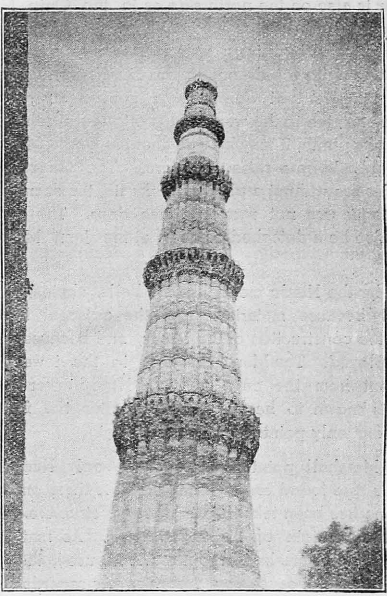
The entrance to a *Mazinah* should be on the east side, as it actually is in the neighbouring unfinished tower of Alauddin, but the entrance to the Qutb Minar is on the north as is usual with Hindu buildings and temples. The Muslims usually build Minars on a raised platform, but the Qutb Minar has no platform at the base. The Arabic inscriptions on the tower are in themselves no proof of the fact that it was built by the Muslims, because these were carved on separate pieces of stone, and were inserted on the wall afterwards. It is quite likely that originally the exterior wall had ornamental niches containing images of Hindu gods. These were removed, and the whole space must have been covered up by the Arabic inscriptions, which at least from their crude setting appear to be an after-thought.

Furthermore, the bells, chains, lotuses, and triangles on the walls of the minar are unquestionably Hindu features, and could not have been inserted by Muslim craftsmen. The Muslims generally attach two Minars to a mosque, but that the Qutb Minar is a solitary and isolated tower shows that it is no organic part of the mosque, was never intended to be a *Mazinah*, and could not have been built by the Muslims. The peculiar slope of the Qutb Minar is another remarkable feature, and is totally unlike that of other Muslim Minars.

Besides, as Mr. Beglar pointed out, only Hindus with their known proficiency in mathematics could have designed such a stupendous

tower. The invaders could not have possessed the requisite engineering skill and mathematical knowledge. The reader would be interested to know that Mr. Beglar actually confirmed his argument by mathematically working out a series of measurements to which the measurements of the Minar indeed conform closely.

There are structural details which confirm the Hindu origin of the Minar. The base of the minar is at the level of the old Hindu temple demolished to serve as the Quwwatul Islam mosque. This unexpected equality of level points to the fact that the tower was contemporaneous with the temple, or was in any case built earlier than the mosque which



is on a different level. Mr. Beglar pointed out that some of the moulded bands of stone round the Minar have been so deeply cut that the resulting appearance unmistakably conveys the impression that some old Hindu decorations have been wilfully chiselled off. Some Nagari inscriptions too have been found inside the Minar, and these further support the theory of its Hindu origin. The Minar does not face any of the arches of the mosques, and is clearly out of its central position. This apparent anomaly can be explained only by the supposition that the minar must have stood at the time when the temple was first converted into a mosque.

Again, Mr. Beglar also noted a close connection between the Minar and the old Hindu temple, e g. the levels of the bands in the first storey and the different heights of the temple pillars. He also found the bands of the first three storeys to be in agreement with the law of geometrical progression, although the higher storeys do not conform to this law. This led him to think that the first three storeys are Hindu, and the subsequent ones are Muslim.

These arguments, weighty as they are, are not fully convincing, and were criticised among others by Cunningham himself. In answer to the aforesaid arguments, it may be pointed out that the entrance to the koil minar is also on the north side as in the Qutb Minar, hence the position of the entrance is no indication of non-Muslim origin. In many other Muslim buildings also the entrance is found on the north. Hindu temples too do not always have entrances to the north. Among fifty temples that Cunningham noticed thirty-eight have entrances to the east, ten to the west, and two to the north. As regards the question of a plinth, it may be said that the early Muslim builders did not always build on a raised platform. The Ghazni Minars like the Qutb Minar are without a platform. Again, the example of a single tower in a mosque was not rare in those days. The ***mazinah*** of a mosque can also be a detached piece as at the Jami Mosque at Koil (Aligarh.)

Then, as for the Hindu motifs like the bells, chains, or lotuses they exist obviously because materials from the adjacent Hindu temples were used in the construction of the Minar, and because Hindu craftsmen were employed. The Minar is similar to the towers at Ghazni, but is different from the only medieval Hindu tower at Chitor. No Hindu tower is known to have been built after the fashion of this Minar. This fact only points to its Muslim origin.

Sir John Marshall pointed out that the only Nagari inscription dating Aibak's time found on a window lintel is there only because the particular stone has been taken from another structure. It does not prove the Hindu origin of the Minar itself. As materials from the neighbouring temples are known to have been used, the presence of Hindu motifs need not cause any surprise. As regards the details of design and engineering, which show Hindu influence, it may be similarly said that the early invaders were after all soldiers and not craftsmen, and that they had to employ Hindus to design and build the Minar. Engineering skill seen in the Minar is, therefore, no proof of the fact that the tower must have been built by Prithviraj, or some earlier Hindu Raja.

In point of style also, the tower appears to have been built under the patronage of the Muslim rulers. Though there is some difference of opinion in respect of the actual details, its style on the whole has

been regarded as Muslim. Structural details may have been inspired by ancient Buddhist, Jaina, or Hindu temples, but the entire conception is so unique and so unlike that of any known Hindu tower in India, and so similar to the towers at Ghazni that it may be said to have been modelled on Central Asian design.

Judging from the internal evidence of the Quwwatul Islam mosque which shows unmistakably Hindu influence it can be safely presumed that the Muslim conquerors had to depend on Hindu builders. They had no time to introduce any new architectural style in India. Certain architectural features like the arch, or the geometrical designs of ornament which were common in the Muslim countries were, however, insisted upon. The Muslims had no scruples against exploiting the materials of highly sculptured Hindu temples. In fact the idea of forcing Hindus to wreck their own temples and rebuild them according to the ideas of Islam must have given a peculiar satisfaction to the fanatical invaders. It is quite conceivable, therefore, that the Minar was built mainly by Hindu craftsmen at the instance of the Muslim authorities in accordance with their taste. Even Havell who was a zealous admirer of Hindu art admits that the Qutb Minar is a Saracenic modification of the Indian ***Jayasthambu***, although he believed that the contribution of Saracenic art in the thirteenth century was not con. structive, but decorative. Finally, the detailed inscriptions on the Minar leave us in no doubt about the history of the Sultans who had a share in its buildings.

On the basis of all that has been stated above, one is irresistibly led to the conclusion that it is the Ghazni towers which formed the prototype of the Qutb Minar, the ultimate origin of which, according to certain authorities, is to be found in such Sassanian structures as the towers of Jur and Firozabad in Persia, the Chaldean ziggurat observatories at Khorsabad, and Tower of Babel. The alternate rounded and angular fluting which is a special feature of the surface decoration on the Qutb Minar is surely a pleasing adaptation of the polygonal outline of the Ghazni Minars. It is futile to connect such a feature with any Hindu or Jaina parallels. The ornamentation of the Minar is consistently Muslim in character from base to top, although some Hindu features do also exist. The projecting balconies at the base of every storey are also supported on a type of "stalactite" corbelling which is known to be a regular feature of Saracenic decoration seen alike in the Qutb in India and the famous Al Hambra in Spain.

There has been considerable speculation as to the real purpose of the Minar. Was it meant to be a tower for the *Muezzin* to call the devout to prayer? It is undoubtedly too high for such a purpose, besides the Minar does not form part of the mosque proper, and is certainly detached from it. Was it simply intended to be ornamental? This would rather be strange, if it were so. The view that the Muslims

built the Minar as a worthy symbol of their recent victory is more rational. The Minar truly symbolises Muslim conquest of Hindustan in a manner which cannot be mistaken. There was already a Hindu Jayasthamba of rustless steel standing at this place. Was it to excel this pillar, and commemorate the might of Islam that this Minar was built ? It has also been suggested that the Qutb Minar may have been represented as the " pole of the earth ", or that it may have been built as a memorial to the famous saint of the same name (Qutbuddin) who lived and was buried close by.

Authorities like Havell, Fergusson, Burges, Smith, Marshall and Page are not unanimous on the point as to who among the Muslim Sultans actually commenced the construction of the Minar. One view is that the Minar was begun with the mosque during the life-time of Muhammad Ghuri. The Futuhat-i-Firuzshahi supports this opinion, and the existing inscription referring to the " Amir, the Commander of the Army, the Glorious, the Great, the Sultan Muizzuddin Muhammad Ghuri " is supposed to suggest that the latter may have commenced the Minar. This view does not find favour with some authorities who think that the founder's name should be seen in the inscription on the first compartment where the name of Qutubuddin Aibak actually occurs. The reference to Muhammad Ghuri, according to this view, is merely honorific. It is urged that it was Qutubuddin Aibak who was the founder of both the mosque and the Minar. There is a third view which assigns the commencement of the tower to Iltutmish. In support of this view, the evidence of the Tarikh-i-Firuzshahi and the inscription of Sikander Lodi on the Minar are cited. The latter incription clearly describes Iltutmish as the builder of the Minar.

As for the name of the tower, it seems almost certain that it was named not after Qutbuddin Aibak, but after the venerable saint Qutbuddin Bakhtiyar Kaki, whom, Iltutmish once offered the dignity of Shaikhul Islam. It must be stated, however, that the inscriptions of Iltutmish occur on the door of the second and third storeys, and that these refer to his ordering the completion of the Minar. From this it has been inferred that he did not begin it. Besides, the inscriptions bearing the names of Muhammad Ghuri, Qutbuddin Aibak, and Abul Maali, the *Mutawali* of the mosque during Aibak's reign, in addition to the likelihood of the Minar having been built as a *mazinah* seem to suggest that the construction was started in Aibak's time. In any case, even if the construction was started by Aibak, the progress must have been inconsiderable on account of the shortness of his reign and the original structure was mainly the work of Iltutmish.

Alauddin apparently had no hand in its erection, as he started a more pretentious tower of his own. But Cunningham thought, on the basis of Amir Khusru's testimony, that the present red stone facing and

the balconies may have been added by Alauddin. The last two storeys were the work of Firuz Tughluq who according to Futhat-i-Firuzshahi, "repaired the Minar of Sultan Muizzuddin, which had been struck by lightning, and raised it higher." Repairs were necessitated once again in Sikandar's time by further damage caused by lightning. The tower was later damaged by earthquakes in 1782 and 1803. Repairs were executed by Major Robert Smith of the Bengal Engineers. He completed his work in 1828 at a cost of Rs. 17,000. The repair work was skilfully done, and reflects great credit on Major smith, but the "Gothic" balcony railings and the equally incongruous "Bengali" chattri have now been happily removed.

To the lover of Indian architecture the question whether the Hindus or the Muslims built the Minar would appear wholly immaterial, for this great tower is a monument to the genius of the Hindus and the Muslims alike.

Time and The Tides of Art

BY BARNETT D. CONLAN

ONE of the consolations which Art can give is a sense of lasting values. In a world where everything about us is being constantly swept to oblivion, this should be a very precious quality. Anatole France thought that when all life had disappeared from off the earth, the planet would still contiuue to turn around the sun—'carrying with it the Iliad and the Odyssey'.

And yet when we come to examine just what it is which gives all great art its lasting quality, we shall find ourselves at a loss. Any religious, philosophical, ethical or aesthetic explanation will fail to capture the mystery, for it is something that partakes of the Infinite.

As I write these lines, a bullfinch on a branch overhead suddenly begins to pipe, like a flute in the wind. This is one of the voices of the earth and one which seems to stir us with infinite echoes. The unconscious art of this beautiful bird is woven with the sound of the wind, the rain, the rustling of the leaves, the seasons, the angle of the sun itself. Like everything that has lasted from a remote past, it is prodigious by its implications, and, compared with it, the noise of a distant air squadron or the roar of the mechanized city seems to strike a hollow and more ephemeral note. Nature, however, is not art, and if we are to find a parallel to this in the realm of the human spirit we must turn to Indian music. The *ragas* composed by the *rishi* musicians, in keeping with the seasons, the changes of the sun and the hours of the day, give this sense of the Infinite. It is a quality which is none too common in art, although I am conscious of it when I am listening to a play by Tagore, watching the dances of Uday Shankar or listening to the notes of the *Vina*.

For if I am not mistaken, it is Indian music which is, in great part, destined to deliver the modern mind from all those crystallizations which have come to isolate it from the worlds of the spirit. It was many years ago when listening to a drama by Rabindranath Tagore accompanied by Indian music that I first had this intuition that Indian music might, (perhaps more than any other form of art.) some day deliver the Western mind from many of its prison walls. To-day I find this sentiment confirmed by the work of several scholars and musicians and particularly by the writings of Mrs. Margaret E. Cousins. In 'The Music of the Orient and Occident' * – a remarkable book, worthy of a place alongside the works of Dr. Coomaraswamy and E. B. Havell—we are told that Indian music is far older and much richer in technique

*The Music of the Orient and Occident. By Margaret E. Cousins B. Mus. B. G. Paul & Co., Madras.

From a painting by Chang-Shan-Tze.

than that of the West, and that in spirit it is essentially religious. Moreover with a prophetic sense of coming times Mrs. Cousins forsees that, after contact with Western harmony, Indian music will continue to develop wider possibilities of a transcendent order which will help to set us in contact with the realm of spirit.

Dating back to the time of Homer and pointing almost as far into the future, it has a tradition which is one of the greatest in the history of the arts. All art that is lasting may be therefore said to partake, in some measure, of the nature of Indian music, ranging from the simple notes of a bird and the folk song to the transcendent harmonies resonant of the higher worlds. Mrs. Cousins assures us that these ancient Indian scales were 'composed on a mathematical, logical and scientific system' and that they were intended not so much for instruments as for the human voice. They were therefore of the nature of a living mathematics and belonged to the living universe of Goethe rather than to the mechanical order of Laplace. This living order can be detected in all great works of art and its absence in much of the stereotyped imitative art of the Romans and the 18th century as well as in the chaotic productions of much of the Art of to-day.

It is to be found, however, at its highest in the Parthenon which is so rich an orchestration of calculated proportions, that it might almost be taken for a symbol of all that is lasting in art. The history of the influence of the Parthenon on succeeding ages, and the changing reflection of its image in the spirit of each age all witness to these qualities. It is possible that the building itself which had become a classic in its own century was very different to the conception which later centuries came to have of it. It was something much more than a temple of perfect arithmetical proportions dedicated to the Goddess Reason. Set in the midst of a panorama of intense and shifting colour —the purple of Hymettus, the sapphire of the gulfs, the silver of the olives, the dark shafts of the cypress—it necessarily reflected the richness of its surroundings. The monuments and the figures on the friezes were dyed a bright vermilion, green or ochre, and the general effect must have been much nearer to the colour scheme of a Gaugin or the rich variety of Indian art than to the severe and abstract ideals of the later 18th century. The miracle, like electricity itself, was the result of two opposing tendencies. The sensuous and highly coloured genius of Asia clashed with the dominant Greek order, took on supreme form and built a unity far more significant than either of these elements could have achieved alone. To-day the tide has turned again in the direction of Asia. in its search for significant form, and it has become the fashion to belittle the intellectual art of Greece and the Renaissance.

The discovery of the formalized elements and aesthetic values of Asian art which has taken place in the last twenty years is, no doubt,

a major reason for this change of direction, but a certain misinterpretation of the Greek genius may well be another factor.

Quite apart from the fact that Athenian art of the fifth century is not the whole of the Greek genius, it is a question whether there are sufficient grounds for condemning the works of Pheidias and other Greek sculptures, as some modern critics are inclined to do, when they describe them as shallow, realistic and illustrational. The modern theory that the Greek spirit was a realistic, scientific spirit, only interested in illustrating the surface aspects of life, would seem to be somewhat prejudiced.

It is probably a reaction to the Roman plaster-cast vision of art and the Augustan version of the Greek tradition. From what we know of Eleusis, Aeschylus, the Parthenon and such highly 'irrational' masterpieces as the 'Bacchae' of Euripides, this present day attack of Greek rationalism seems a little overdone, although one can understand many of the motives that have led to it — misinterpretation of the Greek anthropomorphic position, and a horror of the pseudo-classical conventions of the Academies. We are inclined, however, to think that Nietsche, Goethe and Walter Pater were not deceived.

It is possible that all those who admired the strict arithmetical ordering of the Parthenon would have been shocked to hear that later archaeologists have discovered inequalities in the shafts which vary, in places, from the absolute straight line.

But such variations are just what gives rhythm to the building and causes it to vibrate and palpitate with life. It is all the difference between the style of the born poet and that of the mechanical verse writer. The work is breathing and alive ; it is organic. It has been discovered that even the shadows cast by the profile of the mouldings on the entablature produced soft and melodious modulations and that the colour was applied with rhythmical sequence. And the marvellous and musical proportion between shafts, capitals, frieze, cornice, porch and door was also repeated between each of these parts and the whole. The original aspect of the building with its rich pattern of form, colour and shadow, with its 350 figures and cavalry moving swiftly like a passage of fine music must have made a pageant as gorgeous as that of the Panathenaic procession. Standing on its rocky pedestal, its beauty has defied the tides of twenty centuries and is yet a symbol of all that is lasting in art.

If we cannot altogether explain the elements that go to the making of a masterpiece of art, we can assume that one of its functions is to resume all the tendencies of its time in the synthesis of some sovereign form. It is the highest symbol and expression of all the thought currents, all the religious aspirations of its age.

In the Parthenon there is the luxuriance of Asia fused with that Doric severity which was specifically Greek. There we can see the savage and fabulous origins of the race—the struggle of centaur and amazon, the battle of the giants – captured in the framework of that clear and mathematical vision which was the wisdom of Athene. The monsters are there, but everywhere is the presence of the Goddess. All the culture of the Athens of Pericles, of Aeschylus, Sophocles and Plato is mirrored here but enriched and given depth by the mythical background of earlier centuries. But there is yet another element.

Besides being a synthesis of all the spiritual tendencies of the time, the Parthenon has a lasting appeal which remains even after the lapse of so many centuries.

Like Indian music it is also an expression of the absolute. By its grandeur and simplicity, by its freedom from all that is petty and peculiar, Greek art achieved a timeless beauty which, in its own way, is a reflection of what is transcendent.

In all art that is enduring there is something of this, and wherever it appears a work of art is sure to remain high above the changing values of the time.

In the last century it was the custom to judge everything according to Greek art.

Well-known writers such as Ruskin who held a rather ethical view of the Greek genius thought that Indian art was 'barbarous', 'monstrous' aud 'in great part diseased '.

To-day Ruskin is looked upon as obsolete, while Greek art is being gradually eliminated or belittled so as to make way for Indian and Far Eastern art. That a masterpiece such as the Dance of Shiva has deeper implications and takes its rise from a more transcendent source than many a work of Greek sculpture, I readily admit, for it is something that has the appeal of transcendent music. Nevertheless Greek art and the Greek genius will continue to have a unique and lasting value, not only for the West but for the East. In every way the aesthetic outlook to-day is far more complex than that of a century ago. We are aware of many more styles and traditions besides the Greek, the Gothic or the Renaissance, and have come to appreciate everything and anything that is outside the pale of the so-called civilized nations. The art of primitive communities is now arousing more interest than at any other period in history, with the result that doubts are beginning to filter through regarding many of the values of civilization.

It is no longer the fashion to look upon the Norman conquest of England as the conversion of a semi-barbarous community to a higher stage of civilization. Art critics, according to the new standards, find

that, in the five hundred years that preceded the Conquest, England was in possession of an art of her own in most respects superior to that of the invaders. They hold that in the vestiges of this art which escaped the wreck of invasion and religious vandalism—in the Burghead stones, in Anglo-Saxon stone crosses, paintings and illuminated manuscripts—there is creative art of a much higher kind than that of the Normans, and an art which can very well compare with the great masterpieces of China and India. It is a style which shows Asiatic characteristics, has a vitality akin to Scythian art, and is thought to have been introduced into England from Russia, sometime before the fifth century. It is the old story of a superior culture succumbing to a military invasion, and is one more proof, if such were needed, that a military civilization is not necessarily the highest form of life.

This return to the earlier and more creative types of art has tended, however, to a devaluation of the intellectual art of the more civilized periods -- the art of the Renaissance, of Holbein, of the English portrait painters. Such work, however, is always valuable and interesting for what it is, for its unique distinction even if, in places it borders on the pretty and superficial. Michael Angelo, however, is an exception.

He was a giant for all who, in the last three centuries, have idolized the Renaissance, and he is yet to-day, even for those advanced spirits who have turned against the intellectual realism of that great tradition. His paintings have a power akin in many ways to that of Isiah or Aeschylus ; they are a Genesis, the creation of a world of form.

His work is of another order than that of Raphael, Cellini, and Donatello, less illustrational, less realistic and not intended to divert or decorate. Compared with the Popes, the princes and the learned men who surrounded him, he was a superman. He fought a life-long battle with the emptiness of worldly ambitions and desires, and instead of taking refuge, as did most of his contemporaries, in mysticism or in an elegant sensuality, he filled the Night about him with his mountainous creations and set them to revolve in the dome above like the constellations. He is unique in the history of Western art, in so far as his forms are in themselves significant of spirit. In this he is as great as, perhaps even greater than, many of the Greeks certainly greater than Myron or Polyclitus. Three centuries after, Cezanne by his obscure efforts, did something of the same sort and in his immature and more limited way also came to create significant form. The work of Michael Angelo like many great master-pieces has suffered from the schools and academies, much as the Bible, Shakespeare and Milton have suffered at the hands of the pedagogue. Creative artists, however, can always disregard the dusty vision of the schools and academies and discover for themselves the stimulating influence of this Florentine

giant. To-day the tide is fast turning against the more objective and intellectual forms of art and is seeking for the primitive and more formal types. Artists now prefer the Byzantine and early Italian masters who cared less for anatomy than for the plastic and spiritual contents of a picture. This explains why El Greco, hidden away for centuries in the dim light of Toledan churches, has suddenly emerged and is now recognized as one of the very greatest of all painters.

An oriental and a contemporary of Titian, he was in many ways the forerunner of our own time, being a reactionary, in his day, to the intellectual and scientific realism of the Renaissance. His interest in anatomy was so slight that he purposely deformed his figures, lengthening the limbs out of all proportion when it helped him to secure plastic orchestration. The device may not have been new since it had been practised by Byzantine painters and by the early stone carvers of Chartres and Vezelay.

Nothing is more significant, however, than the influence exercised by El Greco over the painters of our own time; it shows that the movement to-day is away from the Renaissance and towards Byzance and the East.

It is always difficult to estimate the work of a contemporary at its intrinsic and lasting worth. Only the experience of time and the consensus of many judgements can disengage a work from contemporary fashions and values which either detract from its worth or lend it undue importance. In the case of a sculptor such as Maillol, however, we need have no doubt. He is not only one of the greatest artists now living but his work has a rare integrity, a purity of technique, which makes it independent of all actual trends. It is complete in itself. His figures have significance but not of a literary or psychological type, and their beauty of form is also their meaning.

Nicholas Roerich is another great contemporary figure whose work reflects much of the spirit of our time and of that which is to come. His art is rooted in the Byzantine tradition, is wholly spiritual, and its character universal—all of which qualities set him in the forefront of modern movements. Moreover he is remarkably alive to all the requirements of our time, to the necessity of world unity and stability and his imagination is, for this reason, haunted by such figures as St. Sergius, Akbar and Confucius.

In his great frescoe paintings which depict the mountain fastnesses of Asia and the Himalaya, there is something more than fine landscape. These forms are the image of all that is lasting in the world's great cultures and beliefs, and they embody that spirit of unity and ascension to which the whole world now aspires.

The greatest art is always the least documentary, the least anchored in its surroundings. It may be the product of an epoch which displays

a profound spiritual or metaphysical insight into the things that are lasting—such as the Indian murals in the caves at Ajanta,—or it may be the output of some great spirit like Michael Angelo or Beethoven who set their impress on the century. But in all art that remains unaffected by the tide of time—in Egyptian monuments; Indian work of a religious order; Chinese sculpture and landscape; and in the Parthenon, the Cathedrals and the great musical forms of the West—there is a transcendental element which is common to them all, and that is Rhythm.

The Chinese were among the first to critically discern this 'rhythm of the spirit in the movement of living things', but it is something that cannot be codified or taught, and it is the privilege of genius to express it. A Chinese landscape painter of to-day—if he be a master—can evoke it in the same way as his ancestors of the Sung.

It is preeminent in Indian music, in the work of the greatest of living poets, Rabindranath Tagore, and wherever it predominates, it tends to raise a work of art above the changing fashions of the hour and set it among those permanent values which are derived from the timeless regions of the Spirit.

'Sreedhara Venkatesa Aiya Val'

By V. RANGACHARYA, M. A.

IN the last year's *Annual* of *The Scholar* I had the privilege of giving a sketch of the life and works of the well-known saint of Tiruvisanallur, Sadasiva Brahmam. This time I propose to deal with the fascinating career and exploits of an equally celebrated servant of God, Sridhara Venkatesa, more commonly known throughout the Tamil land as Aiya-val. To those who do not know Tamil it may be pertinently pointed out that the term *val* is only a word of honour applied to the name of Aiya, by which designation Venkatesa or Venkatesa Dikshita has been known to his contemporaries and to posterity[1]. The name and message of Aiya-val has served as an inspiring banner, like that of his great contemporary Bodhendra Svami, in the world of *Bhakti*. A philosopher of the Advaitic school, Sridhara Venkatesa was equally eminent as a Bhakta; and together with Bodhendra, he is a household word in every *Bhajana* hall in South India.

Sridhara Venkatesa was the gifted son of a Telugu scholar named Lingayarya, one of the forty-six illustrious householders for whose sake the great Mahratta king of Tanjore, Shahji (1684—1711) endowed the old and historic village of Tiruvisanallur[2] on the banks of the Kaveri under the new name of Shahjirajapuram. Lingayarya gave his son the traditional education and equipment of the Brahmanical scholar of the seventeenth century; and it is enough to mention, in order to ensure a properly-adjusted scale of relative greatness, that Venkatesa was a fit co-student and companion of the great *yogin* and philosopher, Sadasiva Brahmam. Both of them, like a number of other co-villagers whose careers have by no means been obscure, had their evolution as scholars and spiritual personalities in the inspiring atmosphere of which the great writer, Ramabhadra Dikshita, was the centre. The only son of his father, Sridhara Venkatesa inherited a few paternal acres and lived a life which had blossomed into singular beauty and nobility. With the dreams of the philosopher Venkatesa combined the

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1 The name Aiya Dikshita was applied to Aiya-val's Guru, Ramabhadra Dikshita. The lives of Ramabhadra Dikshita and Bodhendra Svami are sketched elsewhere.

2 The Tiruvyalur of the Tevaram fame. Sung by Gnanasambanda. Closely connected with Tirumangalakkudi where a Pallava official sacrificed his life for spending away public income on the temple. Dedicated to Yogananda and Saundara Nayaki. The local inscriptions, 87 in number, and belonging to Chola times mostly, are given in my *Inscriptions of Madras Presidency*, Vol. II, pp. 1280—897. They form Tj. 371 to 464. The place was also connected with the great Vembarrur of literary fame. Ibid, Tj. 465—71.

faith of the devotee; and he made his mark, like many of his co-villagers, as a versatile scholar, poet, spiritualist and exponent of the *Bhaktimarga*. No greater tribute to him is possible than the fact that to his contemporaries he was too great to be mentioned by name. He was known among them only as the great Aiya-val and he has been known so to posterity as well.

Sridhara Venkatesa naturally became one of the honoured favourites of King Shahji at Tanjore; and the former has left a tangible evidence of his gratitude in the historical *Kavya*, 'Sahendravilasa-'[3] It consists of eight *Sargas* and is one of the primary sources of contemporary history. The introductory verses give an account of the Bhosala line which the author compares with the Ikshvaku one. Two of these, referring to Shahji are as follows :—

श्रेयांसि भूयांसि गुणाम्बुराशेः श्रीशाहभूमीकमितुर्विधत्ताम् ।
स्कन्देन साकं गिरिकन्यया च नन्दन्स मन्दस्मितमिन्दुमौलेः ॥ ३ ॥
करोमि शाहेन्द्रविलास नाम काव्यं प्रसिद्धं त्विह पण्डितेन्द्राः ;
निबन्धनं हि प्रगुणं गृणन्ति श्लाघ्येन नेत्रा मणिनेव हेम ॥ ४ ॥

Sridhara Venkatesa refers to the magnificent generosity with which Shahji bestowed villages, horses, elephants, conveyances and *Hemabhisheka* on scholars, and prays to Lord Siva to bestow eternal prosperity to his line. He concludes the eighth Sarga with this reference to himself:

पश्यत्पादनयादिमाखिलनयस्वातन्त्र्य सूर्जस्वल-
धर्मिग्राहकमानसिद्धममतस्पीतश्च यस्योक्तयः ।
तस्य श्रीधरवेङ्कटेशसुधियो लिङ्गार्यसूनोः कृतौ
श्रीशाहेन्द्रविलासकाव्यतिलके सर्गोऽजनिष्टाष्टमः ॥

Besides the above *Mahakavya*, Venkatesa has left another work in this period of his life. It was a joint product with two of his co-pupils Venkatesa Sastri and Nalla Sastri. This work is the lexicon *Padmani manjari*[4] which consists of 800 *granthas*. Like the previous work it is still unprinted. Venkatesa Sastry, it may be pointed out, was the commentator of Ramabhadra Dikshita's *Patanjalicharita*, and Nalla Sastri, who was otherwise known as Bhuminatha and who was a near relative of Ramabhadra, was an erudite writer who has left as many as five works, of which the *Dharmavijaya* is a panegyrical *Champu* on Shahji. The colophon of the *Padmanimanjari* shows the joint authorship in the expression :

इति भोसलकुलजलधिकलानिधि-शहजसार्वभौमवात्सल्यपात्रतातिमात्रीकृतमनिषाविशेषैः वेङ्कटेश्वरशास्त्रि नल्लाशास्त्रि श्रीधरवेङ्कटेशशास्त्रिभिः......विलिखिता ॥

3 See P. P. S. Sastri's Tanjore Catalogue, Vol VII, pp. 3266—8, No. 4230.
4 Ibid, Vol, IX, pp. 3364—6, Nos. 5011—2.

Aiya-val's literary achievement, however, was chiefly in the spiritual field—in the field of *bhakti*. His devotion was naturally directed to Siva, and he put the whole of the devotional fervour in the allied treatises *Siva bhakti lakshana*[5] and the *Siva bhakti kalika*.[6] That Venkatesa's devotion to Siva touched depths rarely plumbed by others is evident from a tradition which has risen in connection with him and the famous temple at Tiruvidaimarudur, two miles off his village. A regular visitor to the shrine, Venkatesa was once unable to do so owing to the freshes of the Kaveri, and a keen sense of disappointment made him sadly depressed. The Lord Himself, goes the story, stretched out a hand to the pious man. In the guise of the Archaka of Tiruvidaimarudur, He ferried His servant across the Kaveri, opened the doors of the temple for him after the usual time of worship and took him back again across the swollen river to his village. The world realised that Venkatesa's standard of *bhakti* was far beyond the conventional and that his conquest over mind and body was not mere book-lore but constituted a reality attained by no other man.

Besides the treatises above mentioned, Venkatesa has left a set of eleven *stotras* or panegyrical prayers addressed on different occasions. One of these, the *Matrubhutastava*,[7] was a *sataka* on the well-known Matrubhutesvara of Trichi. Another, the *kuliresvarashtakam*,[8] was a set of eight verses on Kuliresa, the local Karkatesvara,* which saw the light under strange and miraculous circumstances. The land was once suffering from a devastating drought. The vista of disastrous possibilities discomfited the faces of the local people, and they requested Sridhara Venkatesa to win divine favour by his prayer. The result was, he sang this *Ashtaka* which immediately brought the welcome shower; and even to-day the poem is read whenever a similar occasion arises.

The *Nakshatramala*[9] and the *Taravalistuti*[10] are other *stotras*, the origin of one of which is miraculously explained. It consists of 27 verses and was addressed to the Lord on the occasion of a child's death. The bereavement of the parents moved the heart of the man of God and he gave expression to this heart-felt prayer which, we are told, accomplished its purpose.

The other *stotras* are:— The *Krishnadvadasamanjari*[11]: the *Dayasataka*[12]; the *Stutipaddhati*[13]; the *Akhyashashti*[14]; the *Arti-*

5 6.—Tj. catal. 22799 and 22800.

7. Tj. Catal. 22561.

8. Ibid 22213.

* The name of the deity at Vembarur.

9 Ibid 23209.

10 Ibid 22262.

11 Tanj. Catal. XIX No. 20837.

12 Ibid. 23203.

13 Ibid 23124.

14 Ibid 22171.

harastotra[15]; the *Jambunathashtaka*; the *Dolanavaratnamalika;* and the *Doshapariharashtakam*. All these have been printed in the Grantha Script (Sri Vidya Press, Kumbhakonam).

Aiya-val did not forget the charitable service to man in his aspirations to God-realization. He had a soul with unlimited tenderness behind it. His orthodox ritualistic discipline concealed a weakness for humanity. He was a highly learned man in the rules of Brahmanical particularism; but his heart was not lost to the capacity to dilate with happiness at untutored benevolence. A singularly interesting story is current in illustration of the readiness on his part to lighten human distress at the expense of orthodoxy. He had once to perform his father's anniversary ceremony. As is the custom with the residents of Agraharas, he proceeded to the Kaveri which, as has been already mentioned, flows a few yards off his house and returned home after the sacred bath. On the way he came across a Panchama who was at the brink of death for lack of food. Even in ordinary days, a Panchama is hardly allowed by an orthodox Brahman, whose modes of life and notions of personal purity place him in a different world altogether, even to approach the latter within a few yards. Much more serious are the rules of orthodoxy in regard to pollution and contamination on a day sacred to ancestors. Brahmanical puritanism is carried to the highest pitch that day, and it is nothing less than blasphemy to talk to a Chandala just on the eve of the performance of a *Sraddha*. But Sridhara Venkatesa's inner vision was not at variance with his love of fellow-men. When he looked into the eyes of the sufferer he had an instinctive catch at his heart. Running home, he fetched some food from the preparations made for the holy ancestral ritual, and brought it to the alleviation of the distress of the man. Custom had deliberately moulded his caste-men into set forms; but Aiya-val had the courage to face things in a far more humane way though it was a shock to tradition.

But to the singularly pious men of Tiruvisanallur Venkatesa's conduct was one of the grossest derelection of duty. He was accused of a disgraceful fall from the rigid path of rectitude. They argued that the spirit of the true Vedantin had necessarily to be blunted by a sense or experience of the afflictions of the world. The poignancy of the human calamity is both natural and irrepressible. It is self-invited; the fruit of Karma; the visitation of Providential anger or justice. It is bound to exist, whether relieved in particular cases or not. Man, however great and noble, cannot presume to be second Providence to interfere with the inexorable action of the law of Karma. Whatever one's convictions are, they have to be wrenched into line with those of others. In any case, the sacrifice of the needs of ancestral spirits

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15 Ibid 22188.

for the sake of a human soul was by no means defensible. Such a mode of conduct would be, in the case of a lesser man, a source of a progressive and never-ending process of moral decline and depravity. The needs of spiritul efficacy necessarily involve a certain amount of callousness to the world's ills and afflictions. Arguing thus, the orthodox people of Tiruvisanallur met in solemn conclave and, in righteous indignation, resolved that Venkatesa could not perform Sraddha that day ; that he should expiate his fall from purity by a bath in the sacred Ganges before he could perform it on the next corresponding *Tithi* or astronomical conjunction. The more militant section was crazy enough to resolve on force in order to prevent the collaboration on the part of any of the villagers when the next *Tithi* came. Aiya-val was in a dilemma. He pleaded he had no evil conscience to rebuke him, no self-accusation to torture him. He argued that spirituality could not be so ghastly as to sacrifice all humanity and allow a fellow-man to die of starvation. He flung eloquently the truth of true Advaitism in their teeth. He said that he could not bear scenes, that the social consequence with the loss of which he was threatened was undeserved on his part. But the mind of ultra-orthodoxy is twisted. It sacrifices the heart at the altar of discipline ; and Aiya-val's opponents refused to condone what they regarded as an outrage on propriety.

Aiya-val had now God alone left to him. He could lay opposition prostrate only by placing himself entirely in the hands of the Almighty. Nor was he disappointed. All at once and unaccountably, he was inspired by a sublime spirit of courage and self-confidence. With incredible self-complacency, he assured his co-villagers that he would accomplish the ceremony that very day, and that he would get the Ganges Herself to the village ! His critics only laughed at him. Their eyes only glared amusement They said that he had lost his sanity. But Aiya-val was unaffected. With full trust in God, he proceeded to the spot of his house-well and addressed Mother Ganga in a series of stirring verses ! And lo ! there was a miracle. A mysterious girgling sound was heard and the next moment the well was filled with the foaming stream of the Ganges ! Aiya-val had now the whip-hand of his enemies. They held their breath with incredible excitement. They could not believe their own eyes. But a bigger surprise was in store for them. When Aiya-val, after his bath in the newly-risen Ganga, went into his house, he was greeted by three mysterious Srotriyas who seemed to be the very soul of piety and who, to his blank amazement, urged him to begin the day's ceremony. The whole ritual was then gone through, and the feeding of the representatives of the *Pitris* was over. The *mantras* uttered by them amazed the file of people who were guarding the approaches to the house, and they wondered how these men had got inside without their knowledge. Unable to give up their pusillanimity, they resolved to belabour the

men who had baffled them, when they came out; but when once the hands were raised for striking, they could not be moved, and the Srotriyas too disappeared all on a sudden from their very presence !

The critics of Aiya-val were now effectively silenced. They acknowledged their defeat and their littleness. They now vied with one another to do him honour. They expiated their sin, and expressed their repentance, by bathing in the efforescent Ganges ! And even to-day, on the New-moon day of the month of Karthika, thousands flock to the holy village of Tiruvisanallur, bathe in the well so memorably associated with Aiya-val and celebrate his greatness in a grand festival. They carry his portrait in procession, read his works and sing his songs, raising their eyes to God and Heaven as he did more than two centuries ago. To scholars and musicians it is a day of perpetual festivities,—in fact, the crowning day of ten days' carnival. Among the poor, the memory of the saint is kept dear by sumptuous feeding —among the Bhagavatas as a shining example of one who proved that the duty of charity was to break into the unalterability of ritual ; as a man whose erudition was outmatched by his humanity; as a teacher who proved that a fraction of truth was not the same as its totality. Together with Bodhendrasvami, therefore, as has been already said, he is the tutilary saint of every Bhajana hall in the south. A singular story has been coined by the fertile imagination of the Pauranist to explain the two twin character of these men. Siva and Parvati were once engaged in *Jalakrida*. Two little fish were so much attracted by their magnetic persons that they swam round and round their feet, licking them. The divine pair thereupon sent them to the earth as the born teachers of God-love.

This sketch can be fitly concluded with a word about the conventional portrait of the Saint reproduced, by the courtesy of *The Hindu*, in this issue of The Scholar. It is difficult to say whether it is an exact image of the original or a mere conventional one ; but its striking individuality makes one believe that it is probably true to life. It is not the grave absent-looking lean face of a monk given to self-centering abstraction. On the other hand, it is the face of one who, though in the garb of impressive orthodoxy, was the impersonation of the principle of fellow-feeling ; whose heart was free from spite and narrow-mindedness ; who mingled freely with the world and partook what it gave, but radiated, none the less, a beautiful combination of spiritual probity and human charity. The engaging smile and self-complacency of the buxom figure invites men, so to speak, to be at once in the world and outside it. His appearance, no less than his lyrics, is treasured up in the hearts of God-lovers ; and the cottage where he lived and the well into which he brought the Ganges are among the most sacred institutions of South India.

Vitamin C in Human Nutrition

By Dr. K. V. GIRI, M.Sc., A. I. I. Sc., D. Sc.

THE discovery of vitamins and their application to the problems of nutrition have greatly lessened the incidence of many diseases due to dietetic deficiencies, and no better example can be quoted than the importance of Vitamin C in human nutrition. Just a few years ago the vitamin was a mysterious and elusive substance, but to-day due to the untiring energy and efforts of many scientists, particularly of a Hungarian Biochemist, Szent Gyorgyi, and Professor Haworth, who were honoured in 1937, by the award of the coveted Nobel prize for medicine, the vitamin has been isolated in a pure form, identified chemically, synthesised, and even commercially manufactured. It is now sold in large quantities as a pure and simple substance which is known as ascorbic acid or cevitamic acid. There is now no longer any mystery about this Vitamin.

Szent Gyorgyi deserves the great credit for the discovery of the vitamin, which he isolated in pure crystalline form from Green Paprica, a kind of Hungarian red pepper. At a certain dinner Gyorgyi did not relish green paprika, which he was accustomed to eat everyday before meals, and he set it aside. Later on he recollected that among the fruits and vegetables which were investigated for vitamin C, green paprika was not included. He immediately took the rejected dinner portion to his laboratory and worked the whole night and discovered that green paprika was the richest source of Vitamin C. Duly he isolated from it large quantities of Vitamin C in pure crystalline form, and sent the material to England and America for further investigations, which led to the elucidation of its constitution, its synthesis and manufacture. The synthesis of Vitamin C will have more far-reaching effects on the welfare of the human race than the work which has been done on all other vitamins put together.

Effects of vitamin C deficiency. Vitamin C is known as the 'antiscorbutic' or 'anti-scurvy' vitamin, since its presence in the diet prevents the development of the dietary deficiency disease known as scurvy. This disease is characterised by soreness of the gums with loosening of the teeth, stiffness in joints with a tendency to hemorrhage. Formerly the disease was very prevalent among babies and almost universally appeared among adults in times of famine, war or on long sea voyages. In the Great War scurvy was found to be a serious menace to Indian troops. Major-General Sir Havelock Charles, a medical officer, attached to the Afghan Boundary Commission in 1884—86, believed that the freedom from scurvy of the Indian troops accompanying this expedition was due to the regular consumption of

dried mango known as "*amchur*", when fresh fruits and vegetables were not available. Vasco da Gama lost from scurvy 100 out of 160 men of his crew while sailing round the Cape of Good Hope in 1498. We have many records of the loss of lives of the crews of ships due to the incidence of scurvy, in the early days of long sea voyages. It was, however, soon discovered that orange or lime juice will cure this dreadful disease, and henceforth the disease became a rarity.

Children fed on diets deficient but not entirely lacking in Vitamin C become irritable, restless and lacking in stamina. They do not grow normally and they are less resistant to infectious diseases. Tooth decay and rheumatism in children and adults are due to the shortage of Vitamin C in their diets. Children fed for a considerable period on cow's milk at the age of about 6 - 9 months suffer from loss of appetite, cease to thrive, loose their healthy appearance and become pale. All these symptoms are due to the deficiency in Vitamin C, which is not present in pasteurised or heated milk in sufficient amounts. In such cases the vitamin should be administered in some form to the child. During childhood the period when growth of the body and the teeth are most active, and the susceptibility to dental disease is greatest, it is of paramount importance to include sufficient of Vitamin C in the diet.

It is now proved that deficiency of Vitamin C brings about a change in the structure of the teeth, and it is claimed by many investigators that gingivitis and caries have been cured by giving one pint of orange juice and the juice of one lemon daily to children. Recently it has been shown at the laboratories of the Harward Dental School that lack of Vitamin C in the diet may be the cause of pyorrhea. It is suggested that Vitamin C treatment for pyorrhea can be adopted in addition to other recognised forms of therapy. The suggested dose for its treatment is a gramme in five or six days, or about 150 to 200 milligrammes of Vitamin C daily.

Failure to heal wounds is considered to be due to Vitamin C deficiency, and the administration of Vitamin C is suggested.

Many more diseases are known to be affected by Vitamin C deficiency in the diet. It is believed that tuberculosis, diphtheria, and whooping cough are more severe when Vitamin C is lacking. It has been found that the administration of 100 milligrammes of Vitamin C daily to workmen exposed to lead hazards and suffer from lead absorption, improve their health considerably.

Vitamin C requirements. An optimum amount of Vitamin C should be supplied at all ages to prevent the development of acute or latent scurvy and to improve the general condition. Values of about 20 milligrammes daily for infants, 40 milligrammes for children and 50-60 milligrammes for adults are considered as rough estimates for adequate consumption level, with a little margin of allowance for individual variations in requirements. The pregnant woman and nursing mother must have a generous intake of Vitamin C to meet her

own requirements and to maintain a satisfactory concentration of the vitamin in her milk.

Vitamin C in foodstuffs. It is necessary to have a standard unit for the comparison of the Vitamin C values of foodstuffs. The international unit, which is defined as the Vitamin C activity of 0·05 milligramme of L-Ascorbic acid, is now adopted as the standard unit. 1 milligramme of the synthetic product 1-ascorbic acid is therefore equivalent to 20 international units.

Ordinarily foods are relied on for the supply of this vitamin. The vitamin can also be obtained in the form of powders and tabloids, which are sold in the market. But these are sold at a handsome profit to the manufacturer, and such preparations are very costly and are not within the easy reach of an average man. The synthetic commercial preparations are, however, being extensively used by the clinician. In advocating the use of synthetic products, we must not lose sight of the joy of consuming natural nutritious foods. The man of average means or the poor man can have the required amount of this vitamin without having to pay them in bottle form. The vitamin can be obtained at a small cost, because it is widely distributed in plants. All fresh vegetable materials contain Vitamin C, and the richest sources are oranges, lemons, tomatoes, green chillies, cabbage etc. Cereal grains and legumes contain very negligible amounts of Vitamin C, but if they are allowed to sprout, they become rich in Vitamin C. Thus germinated seeds are good sources of Vitamin C. The traditional practice of consuming on festive occasions germinated green gram (Mung) in Hindu homes is a useful dietary habit, because it is now demonstrated that the germinated mung is a rich source of the vitamin. About 1-2 ounces of the sprouted mung would be sufficient to meet the daily Vitamin C requirements of an adult. The practice of eating sprouted pulses, particularly green gram, should therefore be continued as a daily routine item in our dietary.

Indian gooseberry (*Phyllanthus emblica* Linn.) the richest source of Vitamin C. Indian gooseberry is found to be the richest and the cheapest source of Vitamin C in India. The fruit contains more of this vitamin than any other foodstuff. The Indian synonyms for the fruit are as follows: Hindustani and Bengali—*Amla*, Telugu, Kanarese, Tamil and Malayalam—*Usirike-kaya, Nelli-kayi, and Amalakam.* The Vitamin C content of the expressed juice of the fruit is nearly twenty times that of orange juice, and one single gooseberry is equivalent in antiscorbutic value to one or two oranges. Recent investigations carried out by the writer in the Nutrition Research Laboratories have shown that very small quantities of the fruit juice can prevent or cure scurvy in guinea-pigs, which are often used as experimental animals for testing the Vitamin C potency of foodstuffs. The potency of this fruit has been fully tested by experiments, on animals and it has been shown to be the richest source of the vitamin.

In general, fruits and vegetables lose their Vitamin C potency on drying and storage. It is, however, possible to preserve Indian gooseberries without losing much of its Vitamin potency. An easy and effective method is to mince the fruit and dry it in shade. Sun drying causes greater losses of the Vitamin. The dry powder is a very concentrated preparation of Vitamin C, containing about 25 milligrammes per gramme, which would be ample as a daily dose to prevent scurvy in adult human beings. As this power has been found to retain its antiscorbutic value for a considerable period, it affords an antiscorbutic of small bulk eminently suited for use when fresh fruit is out of season. Another suitable method of preservation is by salting. The fruits are immersed in hot water and enough salt is added to the water. With this treatment much of the Vitamin potency is retained even after four or five months storage, provided it is frequently exposed to the sun.

The Indian gooseberry occupies the pride of place among the fruits as source of Vitamin C. It is grown in plenty, and is, perhaps, the cheapest source of the vitamin with a traditional reputation as a valuable ingredient in many Ayurvedic medicines and tonics. Indians have held the fruit in high esteem from time immemorial and have used it in their dietary, although it is not of general or frequent use. The dried fruit has long been used as antiscorbutic in India. Instances are in record to show that human scurvy was being cured by the fruit. It is stated that "the out-break of scurvy at Nassirbad, Rajputana, in 1833—34 was treated wiih good results by an infusion made from "*anola*", the dried fruit of *Phyllathus emblica*. This product was commonly bought and sold in the bazars and considered to possess great antiscorbutic viriue."

The following table gives the comparative Vitamin C value of various foodstuffs, commonly used in Indian dietary.

Rich.

Indian gooseberry (*Amla*) chillies, goa fruit, tomatoes, oranges, limes and fresh fruits, potatoes, Green leaves like amaranth drumstick, leaves, coriander etc., cabbage.

Moderate.

Milk, sprouted seeds, meat, beans, plantains.

poor or absent.

cereals, pulses dried, nuts, dried vegetables.

The average man will find the above list definite and practical, and he can choose the foodstuff to suit his taste and means.

50 milligrams of Vitamin C, which is the daily optimum requirement is furnished by approximately:

1/5 ounce of Indian gooseberry juice.
1—8 ,, Indian gooseberry whole (one single fruit).
1—2 ,, Sprouted mung.
3 ,, Amaranth,
4 ,, Orange juice.
4 ,, Grape fruit.
4 ,, Cabbage.

8 " **Tomatoes, whole or juice.**
16 " **Plantain.**

From the above table it is clear that Indian gooseberry is the richest source of Vitamin C, and on a very limited income, one gooseberry a day, if taken regularly, is more than ample to satisfy the daily requirements of Vitamin C.

Vitamin C in infant feeding. Vitamin C is accepted as an essential dietary constituent in infant feeding. After infancy the food of children must continue to contain enough Vitamin C which is essential for the teeth. Since milk is not a good source of Vitamin C, orange juice, lime juice or tamato juice is often recommended for infants and young children, particularly artificially fed babies. In practice the vitamin is administered in the form of fresh orange juice, beginning even as early as the third week of life with a tea-spoonful. The amount is gradually increased until the baby is taking about one or two ounces daily by the third month This amount of juice provides about 15—30 milligrammes of Vitamin C, which is the normal requirement for children per day. The optimum requirement of Vitamin C per day is contained in one good orange. These fruits are, sometimes, expensive and are not available all the year round. The poorer classes in India seldom use orange juice for feeding children, on account of the high cost of oranges. However, any other cheap source of Vitamin C may be substituted for the orange juice, provided it is well tolerated. Sometimes some infants and children are allergic to fruit juices, and they will not tolerate orange juice daily. In such cases synthetic preparations of vitamins, which are available in the market in the form of tablets or powder, can be administered orally.

The juice from Indian gooseberry *(Amla)* can replace orange juice in infant feeding. It is an inexpensive antiscorbutic which may be used in the same manner and with practically the same results as orange juice. The vitamin content of the juice is about twenty times the amount contained in orange juice. Feeding of infants with about one teaspoonful of the juice, which is equivalent to about two ounces of orange juice in its vitamin content, may be advocated. About one teaspoonful of juice can be easily obtained from one single fruit. The fruit is first made into a pulp with the aid of a household scraper, and the juice is pressed out of the pulp by means of a cloth or a fruit press. Thus one gooseberry a day is more than ample for feeding infants with enough Vitamtn C. The juice is best given diluted and sweetened with either honey or sugar. The vitamin contained in the juice is quite stable and it can be stored for considerable periods without any loss of the vitamin. Considering the low cost of the fruit and its high vitamin potency, a trial of its value in infant feeding may be made in infant welfare centres.

The effect of cooking on Vitamin C content of foodstuffs. Vitamin C is a very unstable compound and is easily destroyed

particularly when the solution is alkaline in reaction. In acid medium, such as acid fruit juices, the vitamin is quite stable. The practice of using sodium carbonate in cooking vegetables to preserve the colour must be strongly condemned, because the vitamin is easily destroyed in its presence due to its alkaline reaction.

The most destructive form of cooking is to boil the foodstuff in a large volume of water and rejecting the cooking water. By this means most of the vitamin is lost. Contrary to the popular belief, frying in a fat is not very harmful to the vitamin. The usual method of cooking "curry" is not very destructive to Vitamin C present in vegetables. It is found that boiling milk reduces by half its Vitamin C content. Some fruits and vegetables like spinach, amaranth etc. lose their Vitamin C content on storage. But storage at low temperatures causes less destruction. Common salt which is always used in cooking foodstuffs, is found to inhibit the destruction of Vitamin C.

Vitamin C sub-nutrition in India. There is, at present, little satisfactory information about the prevalence of Vitamin C sub-nutrition in India. Dietetic surveys carried out in India have, however, shown that the consumption of fruits and vegetables by most classes in the population is small, and it is possible that the intake of additional Vitamin C would result in an improvement in health. Spongy and unhealthy gums, Pyorrhoea, carious teeth, aching in joints and ankles, painful legs, etc. which are sometimes mistaken for rheumatism, are very common in this country, and they are caused by the dificiency in the intake of Vitamin C.

Infantile scurvy is not very common in India. The scarcity of this disease in this country does not mean that the food of our children contains the required amount of Vitamin C for proper maintenance of health. It has been pointed out how frequently children, without showing clear signs of scurvy, are irritable, lacking in stamina, sallow complexion and retarded in growth. Pains in the limbs and joints are also known to be caused by the deficiency of the vitamin. The food intake of children in India, particularly in South India, is too poor in Vitamin C for the maintenance of good health. Smaller degrees of Vitamin C deficiency than are necessary for the production of the clear signs of scurvy, may occur among young children who are fed mainly on rice, milk and other foodstuffs deficient in Vitamin C. This condition is particularly true among poor people, who, on account of their ignorance and poverty, cannot supply the necessary vitamins for their infants. In such cases the use of Indian gooseberry, which is a cheap source of the vitamin, can be recommended for feeding infants and children.

[For a full description of the value of Indian gooseberries and other Indian foodstuffs as sources of Vitamin C in human nutrition, reference may be made to the series of papers published by the writer in the Indian Journal of Medical Research.]

Applied Biology & National Welfare

By Dr. T. V. RAMAKRISHNA AYYAR

IN these days it has become the fashion with some people, especially among those comfortably spending their time in metropolitan mansions or suburban villas, to expatiate through the press and platform on such slogans as 'back to the land' 'rural uplift,' 'village reconstruction,' 'mass education,' etc. *ad nauseum*; nor is it uncommon to find Government officers in the districts formulating all sorts of proposals and plans to the credulous villagers on these subjects in their after dinner or post-tea orations. There is no doubt, however, as to what this signifies. Persons in responsible quarters have now begun to realise that the prosperity or otherwise of a nation depends entirely on the contentment and happiness of the rural population and not on the number of lazy millionaires, city sky-scrapers, up-to-date cars or distinguished film stars; that the conditions in the rural areas of the country are getting appreciably miserable; and that it is high time to attend to the amelioration of the masses. At such a period as this, it may not be inappropriate to place before the readers of *The Scholar*, some views on one or two aspects of this important subject of mass welfare. In this paper I propose to explain the relation between Applied Biology and rural development and point out the important role Applied Biology plays in promoting the welfare of the nation.

It cannot be gainsaid that among the more important factors which contribute the greatest share to the improvement of the conditions at present prevailing in our villages those pertaining to food and health stand foremost. The fact that over nine-tenths of the rural population live directly or indirectly by Agriculture is too well known to deserve any detailed description; nor is it anything new to record that the death rate in the interior villages due to starvation, exposure or curable ailments is notoriously high.

It was Sir Charles Elliot, one of India's Lieutenant Governors, who said thus some years ago: "I do not hesitate to say that half our agricultural population never know from year's end to year's end what it is to have their hunger fully satisfied." The improvement of agriculture in such ways which would provide sufficient food for the masses and the promotion of public health mainly, if not entirely, rest upon the sure foundation of scientific knowledge and its proper utilization towards the benefit of man. It is the primary duty of our leaders and administrators to encourage to the utmost scientific research especially

in the direction of utilising scientific knowledge (Applied Science), which will help to feed, clothe and preserve the health of our starving and ill-clad millions.

The applied aspects of the natural sciences, such as Applied Physics, Applied Chemistry, Applied Biology, etc. have helped man to conquer nature and make her his hand-maid for a thousand and one things. Applied Biology deals with the discovery and elucidation of facts connected with plants and animals, with the main object of utilising the knowledge so gained towards the every-day needs and practical affairs of humanity as distinct from its purely academic aspects. While agriculture is dependant on all the applied sciences, the most important or vital aspects of that industry which are connected with plants and animals are bound up with applied Botany and applied Zoology. The production of sufficient and nutritious food materials which can be had only when "two blades grow where one was growing" and the supply of clothing to the half-naked population by improving the out-turn from such crops as cotton, jute, etc. by modern scientific methods, growing of cheap and economic crops, finding out by experimental methods pest resistant and high quality variations of crops like paddy, wheat, cotton, sugar-cane etc. and all such allied measures connected with the improvement of cultivated crops—all these depend on the proper utilisation of the science of applied Botany. Speaking of applied Zoology we might quote Dr. Wilson's remarks on this subject:

> In its relation to public welfare Economic Zoology is of the most vital and far-reaching importance. Animal life from its lowest organisms, among which lurk some of our deadliest foes as well as beneficent friends, to the highest vertebrates, touches and affects our lives and welfare in innumerable ways. It must be studied in all its phases as never before to guard against previously unsuspected or little known diseases of man and domestic animals as well as to develop the wealth and ever-increasing variety of products from which we obtain food, medicine, clothing, dyes, ornaments and an endless number of useful articles. No man can be considered well-informed who has not a considerable knowledge of Economic Zoology in the more direct relationship to human life, while to the scientific investigator the subject has the charm of endless variety and service to mankind.

In this short paper, which is intended to give just an outline of the enormous possibilities of improving the lot of our agricultural population with the help of applied Biology, it will not be possible to give details of the various ways in which it could be made to help man. Cottage industries like Bee-Keeping, Sericulture and Lac-Culture also depend entirely on methods of applied Biology.

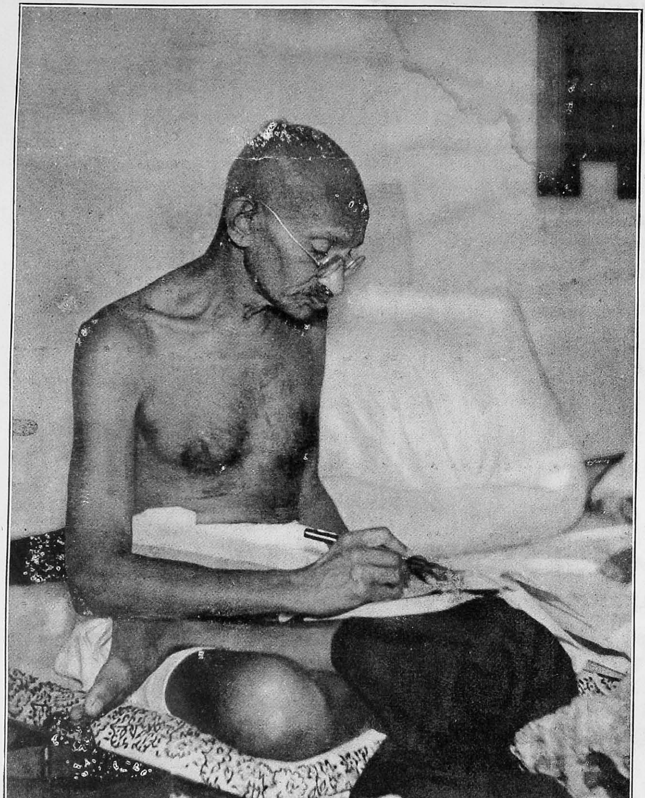
Until recently very little attention was paid to the applied aspects of Biology as compared with the purely academic and intellectual sides of it. This has been the case with all the Indian Universities which have biological subjects included in their curricula of studies. To

add to this, there has been existing among some scientists, connected with the famous universities of the west, some incorrect ideas regarding the applied aspects of the natural sciences. Many of them have been feeling that pure Botany or pure Zoology has a higher scientific status than applied Biology and that the Economic Zoologist or Botanist occupies a lower caste. At the International Conference of Botanists in London (1930) one of the leaders exclaimed: "At this Conference let us have pure Botany, real Botany; we do not want all that applied stuff". Another said that "we discover facts and principles and they merely apply them to particular problems and nothing more". In certain quarters there is often a three-cornered fight between the research worker, the university professor and the applied biologist. The research worker is looked upon by some as an inoffensive but curious member of the social order moving in his own rut and knowing hardly anything of the outside world; the teacher is snubbed as an academic automaton, whose place can be easily replaced by a gramaphone, and the applied biologist is regarded as a boorish farmer or mechanic with neither culture nor status. The writer having worked in all the three capacities, feels that all the arguments are but half-truths

It is, however, gratifying to note that all this bickerings between the pure and applied scientists are gradually disappearing and that we are beginning to realise that it is the proper balance between the two aspects that matters most. The rapid strides of civilisation, the general growing rivalry among the more advanced nations in the exploitation of the rich tropical regions, the frequent wars in that connection and the consequent economic needs of human communities all over the world—all these are compelling man to look for the applied aspects of the different sciences for his future needs. Nor should it be forgotten that it is on the foundation of agriculture that all human activities and thoughts depend in the last resort and that agriculture is mainly applied biology. Above all, the last war and the events that have followed have demonstrated the absolute dependence of all phases of industrial life upon the single industry of agriculture, which, with its associated activities forms the one all-essential requisite in the successful prosecution of any enterprise, be it war or peace. The realisation of these stern facts has within recent years given a stimulus to the advance of applied science. Applied chemistry, applied physics and economic biology have nowadays begun to loom large in scientific circles and experts in responsible quarters have begun to feel that the motto of applied science and pure sciences should be the same, viz. "A practice based on the science and a science that illuminates and extends practice". It may also be concluded generally that all science is practically one, though for convenience it is divided into different sections, that pure science is often immensely practical, that applied science is often very pure, and that between the two there

is no dividing line, both being essential for the intellectual and material needs of man.

It is obvious that in India, though scientific research on pure lines has to be continued, a great deal more has to be accomplished on the applied aspects of the sciences in the interests of the masses and national welfare. We want both Agriculture and Industries and like Japan and America, unless both these aspects of human activities are properly co-ordinated the prosperity of the masses on which depend the greatness of any nation cannot be adequately realised. In all these attempts two things are, however, essential—*measures* and *men*. As regards the former, I have indicated in the previous paragraphs the lines on which work and measures have to be carried on. The men for such work should be those who are thoroughly acquainted with the local conditions, able to move and converse freely with the villagers, realise their difficulties, understand their prejudices and respect their feelings; they should be persons who have more than anything else, the interests of the country at heart and sufficient enthusiasm and earnestness for public work. Retired officials who have had experience in various ways can do a great deal in this direction. But unfortunately, though many of them preach a lot, crowds of them only seek comfortable quarters in suburban areas and town extensions and forsake the villages to which many of them originally belonged—in fact, many of them while crying "Back to the land" are literally showing their *backs*, to the land. Another kind of individuals who can do excellent village uplift work is the village school-master; at present he is too ill-paid to live comfortably and worried a great deal by red-tapism. But he is the man, in my opinion, who, in spite of all difficulties, can accomplish a lot. For in every age and country it is the work of the hármless and unobtrusive village school-master which bears fruit and it is he who does much in the words of the poet: "to scatter plenty over a smiling land and earn the love of a grateful nation".



The Busy Mahatma.

[Courtesy, '*The Hindu*', Madras.

Gandhi's Appeal

By R. K. NARAYAN

PADMA'S husband said, "I shall be back at six. If you are ready by then, we will go to the beach."

"I am going to the Royal Theatre. Gandhi is addressing a meeting there."

"Very well," said her husband, "but be sure to remove your jewels and put them in the trunk before you go to the meeting."

"If you go to the meeting, be sure to lock your purse in the safe," retorted Padma.

"I din't think I shall attend the meeting," said the husband, and left for his office.

At three o'clock Padma stood before her mirror and took off her jewels one by one. In about half an hour she was perfectly bare. She surveyed herself in the mirror and felt slightly disappointed. The wife of the advocate next door was sure to be at the meeting, and what a chance lost of showing off the new gold necklace!

She was satisfied, now that she had nothing on she could possibly lose at the meeting. She had removed even her bangles. She suddenly remembered that it would be inauspicious for a married woman to go about with bare wrists on a Friday. She put on two of her slenderest bangles and resolved to keep them covered with the end of her saree.

The meeting was to begin at five, but Padma was in the Royal Theatre at four, and managed to secure a chair in the front row. In the next seat sat a friend of hers, and Padma noticed that she too was curiously bare. "What is the matter? Where are your jewels?" asked Padma. The other replied, "I have purposely removed them and kept them at home. When Mahatma Gandhi came here four years ago, I attended a meeting in this very hall. He made a speech and then appealed for funds, and before I knew what I was doing I removed and placed at his feet eight bangles, and a necklace worth sixty sovereigns. The Mahatma collected three thousand rupees in half an hour in the shape of jewels alone—somehow when he asks nobody can resist giving him things. I went home bare and for three months my husband did not speak to me. To-day he would not allow me to start without stripping me of all my jewels."

Volunteers clad in white home-spun cloths and caps bustled about pushing chairs, arranging flower pots on the dais, and maintaining order in the crowd. It was only fifteen minutes past four and

the hall was already full. People sat on windows and ventilators and stood choking the passages and doorways.

"Padma stood before her mirror and took off her jewels one by one". (See page 1).

At exactly five Mahatma Gandhi arrived. Everybody stood up. Shouts of "Gandhi-ki-jai," "Bharat Matha-ki-jai," rang through the hall. Gandhiji stood on the dais smiling and bowing to the gathering. Padma stood with clasped hands. So this was Gandhi, she thought. She saluted him a number of times and then sat down. Garlands were flung towards the Mahatma from various parts of the hall. Several women rushed forward to touch his feet. It took nearly half an hour for the bustle to subside. Gandhi squatted down on the dais. An elderly gentleman with a drooping moustache, who had been hovering about Gandhi, came forward with a scroll in his hand

and read an address, welcoming the Great Man and setting forth the work done by the local branch of the Servants of Untouchables Society.

After the address, Gandhi spoke. There was a quiet cajoling note in his voice which lulled his hearers and made them sway to his words. "You know I have come on a mission of reform. It is the cause of truth as I see it, and I appeal to you to help in it," he said. In the eyes of God all men were equal. Could any man say that his eye or ear was superior to his hand or feet or any other part of his body? All were equally important. Similarly every section of society was as important as any other section. The caste system was just a division of labour. The Brahmin at the top did the religious and spiritual work and the Pariah ("Harijan") did the necessary menial and scavenging work; but just for that the latter must not be treated as a leper. All were equal in the eyes of God.

He may have spoken for forty minutes. The audience listened to him hypnotised. Padma distinctly saw a light round the speaker's head. She agreed with every word he said. She felt an intense pity for the scavenger who came to her house, whom she often cursed and bullied for no reason whatever.

After the speech Gandhi proceeded to business. He said his audience must have guessed that he was there for their money. He needed it for providing the poor people of the depressed class with the elementary needs of life. He looked at the women and said, "Your jewels must go for this work." There was a stir among the women in the assembly. Gandhi said jokingly, "I am a moneylender by caste and I won't go before I have in my pocket all your coins and anything that could be converted into coins. Please hurry up. I have another meeting this evening."

Somebody pushed his way through the crowd and placed a silver tray in Gandhi's hands. A woman bounded on the platform, unclasped her necklace, and gave it him. Gandhi thanked her for the necklace but wanted to know if she meant to keep the ring he saw on her finger. The woman removed her ring and gave it to him amid applause.

There was a rush on to the platform. Articles and money were brought to Gandhi at great speed. He attracted them like a central force. Men, women, and children scrambled in confusion to approach Gandhi and offer him something. Men on Padma's right, women sitting on her left, children squatting on the carpet—everybody rushed forward with some offering or other. Padma covered her bangles with the end of her saree and sat fighting the madness which was rising in her.

When the rush ended, a variety of things were heaped around Gandhi—silver plates, trays, vases, fountain pens, watches, trinkets jewels, coins, and garlands.

Gandhi thanked the audience for the gifts, and said he would presently auction all the valuable articles and convert them into cash. But first he would like to assure himself that there was nothing more to come. He asked, " Brothers and sisters, have you given me your all ?" He looked around. Padma's hands trembled as she kept her bangled wrists concealed under her saree. When Gandhi looked at her, she felt she had been found out. She climbed the platform, removed her two bangles, and placed them before Gandhi. He smiled and said, " Thank you, Sister." It was a great moment for Padma.

Her husband came home rather late, ate his food in a business-like way and went to bed. He did not notice Padma's bare wrists.

She decided to say nothing as to what he would do when he discovered the loss of her bangles. He might ask her to go back to her parents. He might not speak to her for three or four months. Shiva alone knew what was in store for her. She wished she had not gone to see Gandhi.

She decided to say nothing about it till the morning. However, at about eleven, she could not contain herself any longer. The suspense was harrowing. She touched her husband, woke him up, and told him about the bangles. He was too sleepy at first to understand what she was saying. She shook him well, and repeated it. He was silent for a few minutes—a thousand years they seemed to Padma. He said at last, very mildly, " I warned you not to go there with your jewels on." She did not say anything to this. They were silent for some time, and then he said, " Now listen to what I have done. I did not intend to go to the meeting at first, but stumbled in there with a friend. I had on me fifty rupees drawn from the bank for paying the rent tomorrow, and I dropped them into the box when a volunteer came round collecting money".

" You are absolutely thoughtless ! What are we to do about the rent tomorrow ? " asked Padma indignantly.

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Psychological Approach to the Problem of 'Accidents'

By ANATHNATH DATTA, M.Sc., B.L.

ACCIDENT is one of those manifestations which entail a heavy loss to the community. So the question of accident prevention is taken up in right earnest by persons who are really interested in the well-being of the society. Lawyers were among the first to pay serious attention to the question of accidents. They formulated certain rules the observance of which, according to them, would prevent accident. But accidents chiefly concern human beings, so the attention of the psychologists also was gradually drawn to them.

It is said that accident is an occurrence which cannot be anticipated and therefore cannot be prevented; that is to say, it occurs as a matter of chance. But now we know that even such a simple event as the tossing of a coin is not a matter of chance. It is determined by many factors, e.g. velocity, resistance, etc. The more we know of these factors the more accurately we can predict the result. Thus if the result of tossing a coin be dependent on calculable factors, surely accidents also may be safely presumed to be the result of the interaction of factors some of which are known and some as yet unknown. This thought led the psychologists to seek out the causes of accident.

It is a known fact that man lives in an environment. So environment exerts a great influence in determining the activities of man. It is sometimes said that environment plays an important part in the causation of accident. Of the enviromental factors which are responsible for the determination of the accident rate in factories and workshops, adverse atmospheric condition is one. It is a familiar fact that poor ventilation produces discomfort. This discomfort is caused not so much for lack of oxygen and excess of carbon dioxide, but for the variation of temperature and humidity. Temperature, humidity and ventilation are, therefore, the three main factors which determine human activity. It has been found by Osborne and Vernon that there is an optimum temperature where the accident rate is the minimum; that is to say, accidents tend to rise as the temperature increases or decreases below the optimum. Similar variation in the accident rate is found to be produced by low cooling power of the atmosphere and excessive humidity.

The influence of bad lighting condition is similar to the adverse atmospheric condition. It is a psychological fact that for our normal vision we require a certain intensity o light. If this intensity is varied,

our visual world is changed also. The discomfort and sometimes actual physical inability we experience due to variation of intensity need not be emphasised. Our vision is affected both by dim and bright light.. They produce a state of 'temporary blindness' so to say. I have heard some persons with motor driving experience say that they find great difficulty in driving cars specially when there is chequered light on the path. The National Safety Council mentions 91,000 accidents of which 24% are wholly or in part due to poor lighting condition. But within the last few years our scientific knowledge has advanced so far that it is not impossible at present to control the environmental factors so as to reduce the number of accidents.

Accident, however, is not always caused by environmental factors. The most notable of the factors other than the environmental ones is fatigue. It is generally found that hourly accident rate increases as the day wears on with a slight drop towards the end. This is not a stereotyped characteristic, but is most commonly found. But this peculiarity of gradually increasing hourly accident rate is not to be found in the case of night work. Here the accident rate is at its maximum in the beginning and gradually decreases as the night advances. In spite of this peculiarity the total number of accidents remains the same. Thus it can be said that fatigue alone is not a cause of accident. It has been found that the rate of work and not the fatigue, unless it is excessive, affects accident rate. Vernon found a large increase in accident rate with a small increase in output. It is sometimes said that the rate of accident varies throughout the week. It is more frequent in the beginning and at the end of the week than in the middle. Farmer later on made an investigation into this problem. He did not find any consistent difference between the accident of any day and the other. He however found a very interesting fact that after each main holidays in the year there is an appreciable drop in the accident rate. The cause of the variation, I think, is that the individual gets sufficient time to regain both the physical and mental energies which he loses everyday during working sessions.

We may now pass on to consider some other causes of accident which depend mostly on the human beings. Greenwood and Woods first pointed out the human factor in the causation of accident. In the report which was published in 1919 they showed that certain individuals are more liable to sustain accidents than their fellow workers though doing the same work and exposed to the same risk. Their findings were subsequently corroborated by the more extensive investigation of Newbold and others.

It is worthwhile to consider here some of the psychological factors responsible for the causation of accident. Carelessness and inattention are often said to be the causes of accident. True it is that every situation to be properly handled requires a certain amount of carefulness and attention. But the degree of carefulness and

attention a particular situation requires is not the same in all cases. It is sometimes found that an individual encounters an accident only for not realising that there is anything to be considered in the particular situation. Foolhardiness sometimes accounts for some of the accidents. Here the individual realises that there is the risk of an accident but he takes the risk either out of bravado or out of mere laziness or from a combination of both the factors. Such accidents are very seldom found among the aged.

Like carelessness, lack of proper attention is sometimes a cause of accident. Anything that affects the direction of attention is liable to cause accident. Hurry, anger, annoyance and worry often affect the attention and thus become the causes of accident. In hurry the attention becomes concentrated on the end, the means do not matter. In anger, annoyance and worry not only is the attention diverted but the whole adjustment is disturbed also. Thus anger, annoyance and hurry besides distracting the attention often tend to make an otherwise efficient man peculiarly liable to accident. Recent investigation has shown that besides carelessness and inattention, poor muscular co-ordination, general instability, insufficient or improper training, ignorance, low intelligence, intoxication, ill-health, emotional state, dislike to occupation, etc. are some of the contributory causes of accident. It has been found that by proper training many accident-prone persons become efficient workers.

What has been said before is enough to show how the environmental factors and human factors determine the accident rate. At the present day although we have acquired greater knowledge of the causation of accident, the state of affairs is still far from satisfactory. We need not on that account feel discouraged however. Psychology is making progress in many directions and we are confident of being immensely benefited by these various new lines of progress and research.

Perhaps the most important of these for our purpose would be the Theory of the Unconscious that is formulated by Freud. According to this theory, all human life is motivated by a wish. Now some of the wishes are acceptable to the current social standards while others are not. The wish which is not acceptable to the standard is repressed, that is to say, is pushed from consciousness. It is now definitely known that the wish cannot be disposed of by this method of repression. Sublimation is the only means by which a wish can be changed. Where this is not accomplished the wish continues in the Unconscious and strives to come into consciousness. The conscious mind on the other hand resists its efforts. If the resisting factors are strong enough it will not be admitted to consciousness at all in any direct way. In that case it will come in an indirect and unrecognised form. Freud found the evidence of the Unconscious wish in the causation of accident. He says that accidental awkward movements " seem to show something violent and irregular, similar to spastic-ataxic movements,

but on examination, they seem to be dominated by some intention, and they accomplish their aim with a certainty, that cannot be generally credited to conscious arbitrary motions."

From the foregoing considerations it is clear that accident is not a matter of chance. It is determined by factors some of which are environmental and some personal. So to find out the causes we should look not only into the environmental conditions but also into the conscious and unconscious mental sphere of the individual. Having determined the causes our next task is to find out preventive methods. Though at present no methods have been found which would prevent accident in toto, yet some methods have been adopted which tend to reduce the number of accidents. On the whole it may be said that reduction of the rate of accident may be effected by change of environment, control over the environmental factors and by an understanding of the innate peculiarity and motives of the individual for the accident. Now if accident depends mainly on environmental factors the best way of reducing it is to produce the optimum condition for the low accident rate, but if it depends principally on human factors the best way of reducing it is to see how far those individuals who have an undue number of accidents differ from other members of the group. They have some peculiarities which make them more liable to accident than their fellow workers. It is at present possible to detect some of the peculiarities by psychological tests, e. g. intelligence tests, temperamental tests, etc. Farmer and Chambers have made an attempt to find out the mental functions involved in accident causation by experimental methods. For this purpose they devised the 'aestheto-kinetic tests'. By applying the tests they found that those who did badly in the aestheto-kinetic tests had a higher accident rate than those who did well in them. Similarly the safety devises, e. g. guards, can reduce the accident rate but all these preventive measures would be of no use unless the individual is persuaded to use them. One of the best means, therefore, is to educate the people in the importance of accident prevention. This can be done by means of posters, pamphlets, notices, lectures, etc. Here the attention of the worker is drawn to the serious consequences which may happen for their carelessness, inattention, etc. Suggestive methods are often very useful in preventing accident. Sometimes elimination of emotional factors, e. g. anger, annoyance, worry, etc. by pleasant talk and development of emotional states e. g. fear, may stimulate considerable effort along preventive lines.

It would be realised, therefore, that psychologists have a very valuable and important part to play in this field of accident prevention. But psychology is a young science, so it cannot offer a complete solution of the problem as yet. However, we hope that a time will come when it will be able by its contribution to save the heavy loss that is now caused to society by accidents.

The Philosophy of Frederich Nietzsche

BY Dr. K. C. VARADACHARI

Ye revere me; but how if your reverence one day falleth down? Beware of being crushed to death by a statue. Ye say ye believe in Zarathustra. But what is Zarathustra worth? Ye are my faithful ones. But what are all faithful ones worth? When ye had not sought yourselves ye found me. Thus do all faithful ones. Hence all belief is worth so little. Now I ask you to lose me and find yourselves. Not until all of you have disowned me shall I return unto you. Verily with other eyes, my brethern, I shall then seek my lost ones: with another love I shall then love you.

Thus spake Zarathustra I.

THUS says the Superman whom Nietzsche immortalized or rather, we should say, whom he had created from out of his intense fancy. The Superman is he who has tested himself in his own being and discovered the spirit of supreme thought within himself. Nietzsche it was who was said to be responsible for the spirit of modern Germany and now that the second catastrophe has broken upon us in the form of the frenzied Hitler, undoubtedly there will be anothar spate of abuse on the head of Nietzsche. In this paper I intend to carefully scrutinise the implications of the utterances of Nietzsche with regard to the concept of the Superman.

Nietzsche, whatever else he intended or no, undertook to test the moral values of the nineteenth century. As Professor Muirhead correctly points out, if to-day there is any serious understanding of the place of ethics, it is to Nietzsche that we owe this problem and the effort to 'transvalue all values'. *(Elements of Ethics).* As Professor A. Wolf says in his *Philosophy of Nietzsche*, "He looked at the world with such profound suspicion which nobody had done" and "He did it thoroughly". He was the very first, indeed, to look into the instinctive life of man in such a thorough manner as to suggest far earlier than Freud and other Psycho-analysts the theory of "fabrication of the ideal" and the theory that forgetfulness is purposive. People forget what they have said conveniently: the forgetting is undoubtedly real but the causes are to be traced to the unconscious inhibition of memory. So also as H. G. Wells has beautifully written in his *Bulpington of Blup*, the fabrication of the ideal or rather the creation of self-delusion is purposive and is only the ego's method of trying to save its face. Further it is to Nietzsche that we owe the theory of sex force as that which sublimates itself into creative thought and action. He considered the 'will to power', which Prof. Adler today considers most important in self-formation, to be the most important biological

impulse which must be canalised and sublimated. Repressed instinct it is that is the root of all mischief. It is true that he arrived at these ideas by sheer introspection and yet the strangest thing is that they have been now accepted by most thinkers and psychologists as proved. Such were then the contributions that he had made. But the other side of the medal has now to be considered.

His main thesis is the thesis of the superman. The ordinary man is fickle, unsteady and pleasure-loving. He develops habits of submission rather than authority, of slavery rather than initiative, of repetition rather than creation. Revolt is better than mere subservience ; even death is preferable and struggle is most welcome than this slovenly movement. He agreed with Heraclitus that all life lives by struggle. But is it the struggle into which our dictators periodically thrust mankind for the sake of strengthening them? The "struggle for self-mastery against one's own passions and impulses or oppositions to oppressive conventions or interplay of cosmic forces or struggle of ideas"—this is what Nietzsche meant by War. Here there are four meanings given for war. The conquest of fear is important. But Nietzsche says, "Better to perish than to hate and fear, and thrice better to perish than to make oneself *hated and feared*." And yet it is likely that we might easily slip into the fault of thinking that Hitler is Nietzsche's superman. An 'enemy of mankind' has no place in the scheme of Nietzsche. At another place he remarks: "Let us break our swords and demolish its entire military organization, lock, stock and barrel". Thus this prophet of Power denounced physical violence that leads to mass terrorism, even if the terrorist is a Superman. It is only a man of self-mastery, or a man who has not renounced the struggle for self-mastery which leads to growth and not to decadence, a man who is intent on the creative exercise of thought rather than on the abnegation of it, who makes a radical adventure into a type of spiritual nature not yet possible on this terrestrial planet of ours, who, in one word, knows how to live intensely, he is the man who can be really super-individual. It is true that this requires a definite orientation of all human values. A man who abandons the effort through pessimism, or through weakness of will or slackness of soul, is one who is doomed for all time.

It is agreed by all biologists that we can really deny the growth of humanity to a higher step than man. Bergson, the biological Philosopher, Samuel Alexander, Lloyd Morgan, and John Dewey find it impossible not to believe in the higher step. Evolutionary principles define this goal and prescribe this effort. Evolution so far has proceeded blindly through impulse. Hereafter we have to plan our future. The prophet of this cry for evolution was Nietzsche. The Mystics, according to Bergson, are the pioneers ; in India we know that the Yogins who, of course, are mystics have been the pioneers. In either case we find

that the nature of these mystics as well as the Yogins is something that cannot be likened in any sense to the amoral or immoral and dark and frenzied emotions of dictators. According to Nietzsche, it was an intellectual thinker of the type of Spinoza, that God-intoxicated Philosopher, in whom thought had become an effect, and a passion for truth, who was the Ideal. In this supreme sense Knowledge was power of the kind the human is unaware of. Thus ethics plays a very important role in his thought. I shall in the following pages briefly consider the several principles involved in the Philosophy of Nietzsche.

Nietzsche's aim was mainly ethical. He approached the problem not as Plato and other writers did from the stand-point of politics but from the stand-point of biology and evolution. The highest necessity for man is progress at once of himself and his species into a state of existence where there shall be no fear, no pain, no limitation and no ignorance. This rightly is only possible through self-mastery and capacity for taking infinite pains. Self-mastery is not possible except through complete struggle against the forces of nature that seek to engulf man. Thus ethics is equivalent to the struggle for self-mastery which is truth, delight and all. "If ye cannot be saints of knowledge I beseech thee be at least its warriors," says Nietzsche.

The higher man will utilise the lower for realizing the highest effort and though on the face of it this means exploitation of the lower, the idea of exploitation is far from Nietizsche's mind. It is necessary that they who ascend should also go through the mill of training. He was a warrior who commanded and inspired the many to strain to the ideal, the ideal which in some deep and elemental manner he has realized in himself.

This entails in the social effort a division into the masters and slaves, the teachers and the taught. But it is likely that even these masters are in some measure bridges or ladders to some higher evolution. There are more things in heaven and earth than evolution at present envisages. The characteristic features of the ethico-evolutionary doctrine of Nietzsche then covers these four features,— Self-mastery; the superior status of the Idealistic Superman to demand and exact from the rest utter loyalty to the ideal of greater evolution; the constant infinitude before life-force which seeks self-transcendence eternally; and lastly the division into masters and servants, the one to obey and the other to command. This classification does not entail the militaristic ideal at all, as we know from our experience in India of the caste system that at once imposed duties of obedience as well as responsibility of self-mastery. Now we shall criticise the system.

Nietzsche's ethics leads to solipsism, that is to say, morality is entirely personal. Practical considerations of success of life through power alone determine action. But egoism or self-assertion leads to inhumanity. Or else egoism naturally passes into altruism, at least in so far as there arises the need for contented servants.

The second great criticism is against the doctrine avowedly biological that "just as man now subjugates the lower animal to his own ends, so the Overman will exploit feebler men and as it has been sarcastically put, rise on the stepping stones of their dead selves to higher things. In short, a race is to appear, so Nietzsche and others will have us believe, that is to try to experiment of life wholly on lines of what is called 'Modern Thought' and wholly without faith in God or in a world to come." So writes Prof. James Ward. This indeed might be considered to be a possibility as it has been proved by the rise of dictators of which even Ward was not so sure at the time he wrote his *Realm of Ends*. But Nietzsche himself did speculate on that possibility, and yet this is only one strain in his thought, that strain that protruded itself on the attention of critics who would have us believe that in a world like this such an emergence of superman is impossible. Nietzsche, though an admirer of Napoleon, himself was no admirer of mere force or physical power, since he writes "I see many soldiers; I should prefer to see many warriors."

The next criticism levelled against Nietzsche cencerns his division of the Society into masters and slaves. The logic of this division should finally be such as to reveal only one Supreme Master and the rest as his slaves. Monarchy in the literal sense of the term would result. Thus master-morality finally being the morality according to One Supreme man, is not different from the Solipsism about which we have spoken. This is indeed a serious criticism. In fact it is an unassailable criticism if only power be considered to be naked power, brute force.

This is, however, not the final answer to Nietzsche' division. That it is the way that conquerors have been attempting to subjugate and conquer, that the white races have sought by the methods of violence to usurp the territories of the weaker races, is a clear enough truth. This scramble for power might have disastrous consequences to modern civilization, but then it has been claimed that this is civilization in process of achieving fullness.

Inequality is an actual fact. Nietzsche's insistence is on the principle that the stronger and more intelligent man should not be broken into the conventional pattern of mediocre man. He conceives that the whole business of government has been during the ages the effort to act as a policeman against the activities of the efficient and able in the interests of the mediocre and the decrepit. The whole process of government is ill-conceived and biologically speaking is only capable of producing racial suicide. Social legislation, which is at the back of moral conscience and its institutions, being in the interests of and legislated by the many mediocres, avowedly then is based on fear of the strong and the intelligent and the advanced. Nietzsche considers that all restraints are against the fore-runner and the pioneer. Everything is weighted down against him. Nietzsche is right according

to the purpose of biology possibly ; but that social life and morality are too human and too restrictive to the forward man in the interests of the mass is also a fact. Nietzsche demands, as true ethics ought to demand, that freedom for amplitude of activity, which is the true source of power and expansion of conduct, which customary morality checks, impedes and even seeks to arrest. It is only when the most able and the most purposive men of a society are permitted full exercise of their freedom to grow and live, that there could ever be survival. It is only when people of this calibre and mental purposiveness congregate together there could be society, there could be even a real life. Progress is achieved by helping and educating and permitting the ablest to grow fully in the interests of the future of a race and civilization. That this progress could be achieved by rational and co-operative endeavours, through love and service, not primarily through self-assertion is a fact that has been prominently referred to by the biological expounders of Morality such as Samuel Alexander and John Dewey. Self-assertion has been as surely a force making for progress as co-operation had been. Love has transformed men into social beings. Aggression is not all in progress ; perhaps what we might at best say in favour of aggression is that aggression pushes the horizon of knowledge and possession, but it is understanding and love that keep them. Nietzsche himself was well aware of the need for comraderie at that high level of individual dignity and triumph. But the supermen of Nietzsche are afraid of ordinary contact, and treat the mediocre as untouchables. This is, of course, an unpardonable ethical defect. Ethics as social not merely seeks to realise the self which is rational and complete, but also assists such a realisation on the part of the rest of the community.

The Philosophy of Nietzsche does not fully illustrate the egoistic impulses merely, because he seeks to make even the superman not an end in himself but as a bridge to something greater, a super-race. Within this at least there must be community of love and affection. But Nietzsche may aim even at a higher than the Super-race ; they may be the bridge to something higher. The pleasure of the pursuit alone is all, says Robert Browning ; the goal is infinitely receding, unfolding through the inner urge, that vital force of survival, that *elan vital* as Bergson would say, greater things that the human imagination could think off. The altruistic forces of human nature are forces of conservation and complacency that removed the life-force of its will to power and fullness. That is why Nietzsche could not appreciate the virtues of Christian ethics. Martyrdom he liked, he praised it even, but the complacency and mere conservation of the old, that mechanical, uncreative and unproductive, force of habit he resented. Nietzsche was clear in his mind that true ethical activity is individual activity that makes for progress and expansion of the consciousness of man ; it must be performed with a supreme passion for freedom and

spontaneity of life that knows no fear. He always associated love with fear since it was in him to love and to love meant, wrongly it must be said in one sense, surrender of effort.

Nietzsche is well-known for his attacks against Democracy. But democracy meant not what it means to us, including all the conceptions of equality, fraternity and liberty, for all, but the rule of the Mob, undisciplined and craving nothing more than the pleasant continuance of its life of economic satisfactions. Unintelligent, incapable of knowing the dangers ahead of it, incapable of planning its future, such is the reign of the mob. The Mob is not biology-conscious. It suppresses the very things it ought to further—initiative, intelligence, pioneer effort and force of character which knows no fear and only knows truth. The Greek meaning it is then that appropriately applies to the term democracy. What he meant his superman to do was what Plato himself wanted his Philosopher-Kings to do. But it is clear that instead of governing the country and making its citizens grow into the higher type, the already higher do not want to have the new products encroaching within their preserves. That is to say, these supermen become corrupt, they like to perpetuate their rule rather than prepare others. This, however, is by definition not possible as the real Superman is one who is the pioneer seeking to surpass man ; that is man, who alone is all these--egotistic, selfish, corruptible. All the same it is humanly true to say that 'power corrupts, infinite power infinitely corrupts '.

By the very nature of the dichotomous division into masters and slaves and by the institution of a two-fold morality, one for the masters and another for the slaves, there happens an unhappy conflict. Nietzsche thinks like the Dialectical materialists that it is inevitable : the Marxists insisting upon the power of number and the Nietzscheans on the intelligence, to solve the conflict of these forces. Nietzsche himself was so little interested in Politics as to be anxious to realise the nature of his political Dictator, just as Plato himself was disillusioned over his protegy Dionysius the Elder, there is no doubt that Nietzsche would have fundamentally revolted against the present German Fuerer, Hitler. Nietzsche speculatively dreams about that biological future man who being wise and yet active, a Philosopher who lives unphilosophically, so he wrote about his Superman as one who prepares the way for the future, as one who strives continuously spiritually for the bringing down of that supreme meaning of the earth. But it is not necessary even for the Dictators or the Supermen to be violent, in spite of the fact that the modern as well the ancient dictators had only one way of keeping up the admiration of the public, that is by violent displays of strength. Nietzsche did not see that the method by which his supermen might finally fail to be super is by their violence and frenzy, and there must be found other virtues which would

make it necessary for them to remain uncorrupted by such sadistic orgies. The absurdly rhetorical and demogogic statement of Mussolini that ' Violence is moral, when it is timely, surgical and chivalrous' cannot prove that violence is at all good. Yet the mass of mankind has not learnt that to be violent involves not power in the intelligent sense of the term, but power in its regressive phase, animal, and brutal and incapable of making for growth and evolution. Nietzsche's fault is essentially this ; he does not see that violence is not power at least for the superman to use. He ought to have learnt from Gandhiji and the Indian Sadhakas that violence is absolutely incapable of producing spiritual growth and generating power of the highest consciousness to which Nietzsche so pathetically appeals.

Hero-worship as practised in the West is a dangerous vice. As Nietzsche himself writes, men worship others when they have not found themselves. Hero-worship manufactures that peculiarly repulsive monster the Hero, whose fullest achievement consists in smothering the intelligence of his followers. In this respect at least Nietzsche could not be accused. He was against that Carlylian foolishness. But when all this is said, it is the demand that got the supply in modern times. We get the masters we deserve. Nietzsche's insistence on individual morality which demands individual loyalty to the ideal of a super-race and superman, which every individual having the will has to consecrate himself to, has nothing of the servility about it. All the same as Nietzsche himself knew it is not easy to produce such supermen in a night. Sacrifice, conquest of fear, independence and supreme courage and utter devotion to the super-ideal, all these are necessary. But all the same, with all these supreme virtues of Justice, Courage, Wisdom and Temperance, the Superman of Nietzsche is a misfit in modern civilization, is a lunatic, is a demented ideist, is a regression if not a perversion, is at best a phenomenon, more to be feared rather than to be admired, and all because of that one supreme feature that occupies such a large canvass in Neitzsche's picture of him—his Violence, born out of Self-assertion. As Y. Y. wrote in the *New Statesman and Nation* in 1934 : " One of the great problems of modern civilization is to keep watchful eye on Cain, to point out to him that his methods are antiquated and to persuade him or compel him, to recognize that he is living in the twentieth century, which should be an improvement upon if not a retreat from centuries that went before it". Civilization is built in times of peace : man's greatness is seen not when he is at war, when he destroys all that he had built with such creative labour and loving interest. Creative endeavour, says Foster, is possible only when violence is in the background. To create for man, to be efficient for man, even to have a future for man, man must distinguish between creative power and destructive power. It is this non-discrimination that has led to the catastrophic conclusions of Nietzsche.

The Tragic Fate of the Freudian Ego

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FREUD'S Psycho-analysis has brought about a revolution not only in the realm of psychology and psycho-pathology, but it has given a new turn to our modern culture and civilization, for all ultimately depend on our views about mental life. Our modern culture and civilization largely depend on our knowledge of the instinctive basis of our life. The sanity and reason of the present-day civilization and culture can be understood, if only we are able to know the underlying bases from which they have arisen. In this article an attempt will be made to give a picture of our mental life after Freud, and in which it will be shown further, that the Ego, which controls our mental processes, lives a life of tragedy in its fruitless effort to please its three powerful masters, External World Super-Ego, and the Id.

Before considering the mental life from the dynamic stand-point, viz., the dynamic functions of the Ego, Super-Ego, Id, and the External World, let us first try to form an idea of our conscious and unconscious mental life. It may be held at once that consciousness or the conscious mental life is a very little portion of our mental or psychic life, a major portion of it, remains unconscious. The unconscious is a vast field, it contains not only the latent and the repressed aspects of our psychic life, thus forming the background of the conscious life of an individual, but it contains the racial and phylogenetic deposits,—the 'archaic heritage'. From this it becomes evident that the study of the unconscious is a huge speculation. Whatever is consciously known becomes our knowledge of the unconscious. The analysis of the conscious life further tells us that it is not only conscious of the influences of the external world, but also conscious of the influences of the internal world. The influences from within and without constitute our conscious perception of the inner and the outer world. Though there is a general aim at mutual compromise, there is often a conflict for the demands of both fundamentally.

From the above discussion it will also be evident that our psychic adaptation to the external world, is not 'passive', but an active 'participation' with it. The two forces external and internal, function together, and the conflict between the two is due to their aim at attaining victory over the other. The consideration of this life of conflict at once takes us to the dynamic forces that regulate our mental life,

for they alone wage war against the external forces. So from the mere processes of our mental life (both conscious and unconscious), we pass on to the instinctive bases of the processes, for they control the processes. We are here considering the functions which regulate our mental processes.

Our conscious mental processes are controlled by the Ego, which is the representative of the external world, in that it tries to modify our unconscious Id. But being representative of the external world, it is not separated from the Id, which forms the dynamic basis or the instinctive basis of it. From this point of view, it is only the modified portion of the Id. The Ego tries to replace the 'pleasure-principle', which lies in the Id, by the 'reality-principle'—the demands of the external world. 'The ego represents what we call reason and sanity, in contrast to the Id which contains the passions'. * So we find that though the Ego is directly concerned with the external world, it has not cut off all its connections with the Id, of which it is a surface or a portion. The whole force of the Ego is a borrowed force. It has a strength, a power, a control—a power to control the mental processes and hold in check the 'discharge' of its energies, on the finding out of the right object in the external world, but this controlling force or power is borrowed from the Id. The Ego is compared to a man on horse-back, with this difference, that the Id supplies the whole amount of energies to the Ego, while in the case of the man on horse-back, the man wtth his own force controls the superior strength of the horse. The Ego by itself has no strength of its own. It is powerless without the Id.

So to determine the real strength of the Ego. we must form a very clear idea of the Id, which forms its instinctive basis. Freud's view of the Id is the view of the dynamic basis of the mental life. It is in a state of unstable equilibrium (being unbound), for the two dominant instincts, life or Eros, and death rule supreme here. The instincts by their nature of unstable equilibrium, always aim at releasing the tension, and in this release there is pleasure. The instincts, which are of two kinds, are directed in two ways. The object of one is progress or change; of the other, cessation or death. So the instinct in broad outlines is a tendency innate in a living organic matter impelling it towards the reinstatement of an earlier condition. This points out the conservatism of the instincts. There is always a tendency of the living organism to return to the inorganic. The goal of all life is death.* The study of the instinctive basis of mental life points out that it is a dynamic situation of unstable equlibrium trying to release its tension by choosing a right object. But the choice of the object depends on the 'Oedipus situation', which is determined by inner bi-sexuality and ambivalence.

* The Ego And The Id, p 30.

This takes us to the 'Oedipus situation' of the Id, and the constitutional bi-sexuality of each individual. Our object-choices depend on them. The difference between normality and abnormality, lies in the success or failure of mastering the 'Oedipus situation'. The mastering of the 'Oedipus situation' means a complete identification of a man with his father, or of a woman with her mother. This means attainment of perfect masculine or feminine character. This is an 'Ideal life" set up by the Ego, in order to master the 'Oedipus situation'. So in the normal man or woman, there is no 'Oedipus complex', which means a failure to master it. Its presence means abnormal life which is akin to the life of a child in its helpless stage of infancy. At an early age a little boy develops an object-cathexis of his mother. He identifies himself with his father, and his father is perceived as an obstacle to his getting full possession of his mother. Thus he develops a hostile relation to his father, and an affectionate relation to his mother. This gives rise to the 'Oedipus complex'. This hostile and affectionate relation to the father or mother alternates with the inherent bi-sexuality in us. But normality means an intesified identification with the father in the case of the boy, and such identification with the mother in the case of the girl. So in the case of a normal man or woman, the 'Oedipus situation' is mastered, while in the case of abnormal man or woman, it is not mastered. So it will be wrong to hold that psycho-analysis rejects or ignores the higher, moral, spiritual side of human nature.* It always tells us to lead a normal life, and in, that normal life, the 'ideals'[1] will be found. Normal life is nothing but mastering our 'Oedipus situation'.

This culture of the higher life leads us directly to the consideration of the Ego-Ideal or Super-Ego. It is the Super-Ego in us that tells us to identify ourselves with our fathers, and thus develop the culture of masculinity in us. If we go deeper, we shall find that this Super-Ego is not merely a differentiation of the Ego with its 'ideals' for it is a mechanism for mastering the 'Oedipus situation'. In brief the origin of the Super-Ego is not confined to the life of the single individual, it has a phylogenetic setting. It is a representative of the Id and issues from the depths of our inner life to attain mastery over it. So the consideration of the Super-Ego takes us to the 'Oedipus situation' of the Id, which contains the traces of the racial history. Freud views it thus: "Through the forming of the ideal, all the traces left behind in the Id by biological developments and by the vicissitudes gone through by the human race are taken over by the ego and lived through again by it in each individual." Further on he writes. "Thus in the Id, which is capable of being inherited, are stored up vestiges of the existences led by countless former egos ; and when the ego forms its

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*Beyond The Pleasure Principle, p. 47.

super-ego out of the Id, it may perhaps only be reviving images of the egos that have passed away and be securing them a resurrection." *

From the above consideration we come to the conclusion that the inner life of the Ego is full of conflicts from the early childhood, where the conflicts were with the object-cathexes of the Id, and these conflicts are continued further in our maturer years, where there are conflicts with the Super-Ego. This conflict goes on continuously till a perfect mastery of the 'Oedipus situation' is attained. To repeat once more, this life of conflict to which the Ego is a subject, is not merely individual, but racial. It is racially deposited from centuries to centuries. Viewed in this light, the tragedy of the life of the Ego can be felt in its keenest form—a poor creature that dances out its part and slowly slips away into the land of oblivion.

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* **The Ego And The Id, p. 46. "Ibid., p. 48." Ibid , p. 52.**

Forsyteism:

or

Middle-Class Philosophy

BY Dr. K. R. SRINIVASA IYENGAR, M.A., D. Litt.

GALSWORTHY has given to the English language yet another 'ism' by embalming in the pages of *The Man of Property* a faded generation of the upper-middle class Victorians. He has called them Forsytes — and their story is the 'Forsyte Saga', the word 'saga' being "used with a suitable irony." Hamlet is a concretion of intellectualism at the cross-roads—and Hamlet-ism is endowed by Shakespeare with a sure universality. Babbitt-ism is middle-class Americanism vivified and Oblomovism is the despairing indolence of a Tsarist Russian, hopelessly wailing about his helplessness. Hamlet and Babbitt, Oblomov and Soames Forsyte,—they are clearly realized individuals; but they are also representatives of a class, in the final analysis of humanity itself on the cross.

In attempting to portray the Forsytes of the stolid Victorian sunset, Galsworthy severely limits his objectives: "As the old Egyptians placed round their mummies the necessaries of a future existence, so I have endeavoured to lay beside the figures of Aunts Ann and Juley and Aester, of Timothy and Swithin, of Old Jolyon and James, and of their sons, that which shall guarantee them a little life hereafter, a little balm in the hurried Gilead of a dissolving 'Progress.'" It was fatally easy for Galsworthy to make his multitudinous Forsytes mere variations of a simple formula—and thereby to maintain, at any rate to insinuate, a thesis. But Galsworthy was an artist; not a propagandist; like his Cethru in 'A Novelist's Allegory', he was content to hold the lantern aloft, moving hither and thither along the busy thoroughfare of life revealing everything and attempting to reform nothing. The Forsytes, in consequence, are all very subtly differentiated; they are a family, certainly, but their differences are no less vital than their similarities. What, for instance, can be less alike than Swithin's drive with Irene to Robin Hill and James's drive with her afterwards? Can George and Soames have anything in common? Or Old Jolyon and James? And yet they all do constitute a very self-conscious family, in spite of, or even precisely because of, these seemingly profound differences. Why? Perhaps the answer is simple: the differences, however marked, are superficial, whereas Forsyteism is in the very core of their being, more potent when not always visibly expressed. Even the black-sheep — a George, a Young Jolyon—are helplessly under the thrall of Forsyteism.

If the Forsytes thought and felt alike on all subjects under the sun, if they never quarrelled and never worked against one another's interests, they would be then a disciplined political party rather than a characteristically virile family. On the contrary, the Forsytes are every moment alive and kicking, and almost always critical of one another. Jealousy is as important a constituent in their character as the sense of property. James is worried because he is afraid that Old Jolyon is richer than himself. Old Jolyon fumes at the thought that his brother's son, Soames, should have succeeded in life while his own son, Young Jolyon, is practically an outcaste from society. And mark this exquisite conclusion of the first Chapter of *The Man of Property*: of the brothers Nicholas and Roger, one books a first-class ticket and the other a second, and so they enter their " respective apartments. Each felt aggrieved that the other had not modified his habits to secure his society a little longer; but as Roger voiced it in his thoughts:

> Always a stubborn beggar, Nick!
> And as Nicholas expressed it to himself:
> 'Cantankerous chap Roger—always was!'

There was little sentimentality about the Forsytes. In that great London, which they had conquered and become merged in, what time had they to be sentimental ?"

It is clear, then, that the Forsytes, so many of them, while constituting a self-conscious family with its own conventions and prejudices and even its own Exchange (the Forsyte brand of a College of Scandal), nevertheless were individuals,—each unto himself and God for them all! Similarly, innumerable other families, as tenacious and self-conscious as the Forsytes, lived and moved and had their being in the England of the Eighties and Nineties contributing to its solidity and vitality. The 'Forsyte' family was thus a symbol, not alone of a family that had originally come from Dorset, but of upper-middle class England. We may take one step further by equating Forsyteism with middle-class philosophy and ethics all over the world. It is certainly no wild generalization.

How, then, shall we recognize the Forsytes? There are some tests. Forsytes, to begin with, are " well-dressed people who keep carriages ", or, as we might say to-day, who keep cars, "at least a Ford". As for their " two most priceless possessions ", they are "the pocket and the hearth." They are, moreover, generally cool and calculating; they can evaluate everything, moral or metaphysical, in terms of money. Hence " nothing in this world is more sure to upset a Forsyte than the discovery that something on which he has stipulated to spend a certain sum has cost more. And this is reasonable, for upon the accuracy of his estimates the whole policy of his life is ordered. If he cannot rely on definite values of property, his compass is amiss; he is adrift upon bitter waters without a helm."

This Forsyte you are scrutinizing is an interesting animal, none the less strange for being so common. Its worship of money is sincere, and religiously so. It must accumulate money—*how* it does not matter. For, financial success is for it the visible and indubitable mark of distinction. Irene's father was a professor—and a Forsyte quickly ejaculates: "There's no money in that!" Bosinney is an architect—there's no money in that either! To be prim and respectable, to be stolid and safe, one must have a substantial stake in one's life—in other words, one must be a Man of Property. But being a monied person is itself a relative term; there can always be more and more, and yet more and more. One must look about oneself, compare oneself with one's neighbours, and try to emulate them. This explains why the Forsytes are distinguished by their intense and morbid self-consciousness as a class. They neither care to look beneath their station—the multitude is so polluting; nor do they care (or dare) to face the true members of the aristocracy—they are the idle rich surely, degenerate specimens of a faded, dying order. But the upper-middle class, the "self-made" class,—it is a host by itself; the present, and even more the future, is implicated in this emergent class, this almost Superman-class.

So the Forsytes of this world feel, and feel too the burden of their self-importance, their terrific responsibilities to keep the world going without a hitch. This perhaps accounts for what Arnold Bennett calls "their gigantic temperamental dullness", their unresponsiveness to external suggestion, their utter lack of humour—in short, their "heavy and half-honest stupidity." This accounts too for their "grim passion for the *status quo*." With their uncanny perception of the "futilities" of emotion, the Forsytes are adepts in the art of avoiding new ideas, of promoting even "a general defensive, sullen hatred of all ideas whatever." But if an idea is marketable, then, it might be considered in a business-like manner. Poetry, art, music,—they are fragile projections of the human emotion; but sometimes they could be capitalized, and could be effectively harnessed to the service of the Great God Money. Music publishing and the production of literature on a mass scale—these are not things to be ignored. And paradoxically enough, "art, literature, religion, survive by virtue of the few cranks who really believe in such things, and the many Forsytes who make a commercial use of them." They are as a rule insensible to Art, and they religiously hate all artists. And yet they are not averse to seeing pictures now and then, even buying some of them; and they have decent libraries, stocked with standard editions of most classics; occasionally they actually read books,—books oh yes, by living writers. How shall we explain this ominous phenomenon? It is quite simple. The Forsytes, for one thing, pathetically hanker after respectability; and perhaps sheer *ennui* also "drives them to seek distraction in the artists' work."

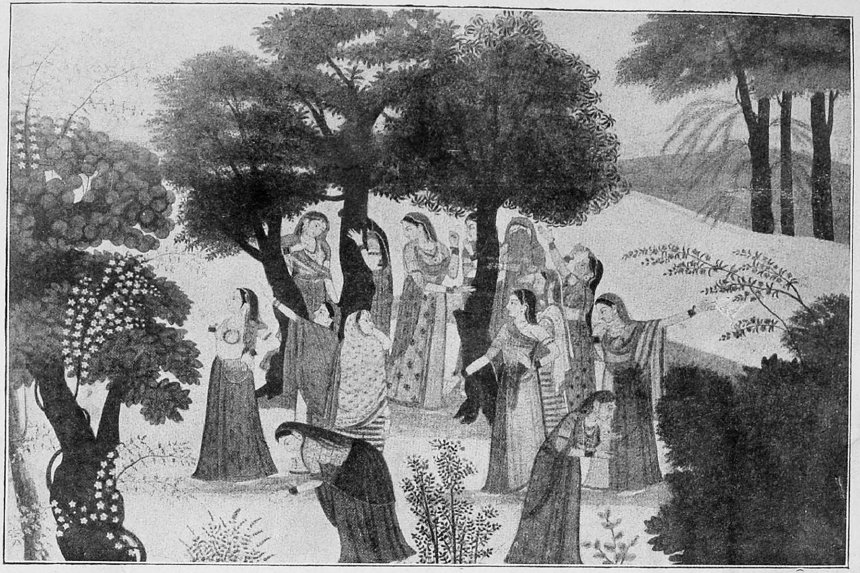
But if they could possibly help it, the Forsytes would not allow anything to carry them away--neither a poem, nor the Taj Mahal, nor a beautiful woman herself. And if they succumb indeed to emotion, the less Forsytes they—and that way lies the disintegration of Forsyteism.

Young Jolyon has studied Forsyteism with inside knowledge and is hence in a position to discourse on it to Bosinney. Under more favourable circumstances, Young Jolyon could write a doctoral dissertation on "Values, Varieties and Vagaries of the Forsytes." "This little animal", says this authority on Foresyteism, "disturbed by the ridicule of his own sort, is unaffected in his motions by the laughter of strange creatures ....Hereditarily disposed to myopia, he recognizes only the persons and habitats of his own species, amongst which he passes an existence of competitive tranquillity.........They (the Forsytes) are half England, and the better half, too, the safe half, the three per cent. half, the half that counts. It is their wealth and security that makes everything possible ; makes your art possible, makes literature, science even religion possible. Without Forsytes, who believe in one of these things, but turn them all to use, where should we be ? My dear sir, the Forsytes are the middlemen, the pillars of society, the corner-stones of convention ; everything that is admirable !"

The average Forsyte is a self-made man ; his property is his own, won by exercising his wits. Too busy accumulating property—houses, and stocks, and shares, and wife and children, and pictures, and books, and what not—all his life, he has little inclination and practically no time to give way to sentiment, to contemplate an occasional escape into the Ivory Tower. Respectability, of course, is a good investment ; and he would acquire the outward habiliments of respectability. A few leather-bound volumes, even a whole library of them, may do one no harm ; a Radio, a car, a few pictures, these are necessary too ; occasional donations to charitable institutions will not be amiss either. A Forsyte may even indulge in—why not ? — Mysticism, and talk blandly like Caliban on Setebos, confusing mysticism with poetry and poetry with everything else. He may now and then glibly talk of Einstein and Plotinus and Hopkins's poetry and the cult of Ahimsa. If by these means our Forsyte could establish his respectability, without in the least making an encroachment on his bank balance, he will do it all and out-face the censorious. His culture is second hand, he knows it ; his culture is bought with his money, and hence the more doggedly he clings to his property ; his sense of values is shoddy and artificial, but he will not admit it to himself. He can feel secure, respectable perhaps proud as well ; but he can never be happy. To be happy one must be prepared to give as well as take ; and a Forsyte is congenitally incapable of giving. It is not in the bond. He cannot find it in him to give freely, unselfishly. And so he is never happy ; and his tragedy is all the greater if he does not even know that he is not really happy.

The Forsytes are doubtless the seeming Pillars of Society. They are on all Committees, and they are the born administrators of our sublunary sphere. They are the wise men who hounded out Dr. Stockmann in Ibsen's *An Enemy of the People* ; who killed Socrates and Jesus ; who give no quarter to the unbalanced visionaries who ever fish in the troubled waters of human life. The humdrum world looks to the Forsytes for guidance, and not seldom for sustenance as well. It may be that the world owes its " progress ", its greatest triumphs in literature, philosophy, and religion to the few " eccentrics " and " lunatics " who have set themselves against the current Forsyteism ; but, then, Forsyteism is also the philosophy of compromise. When a thing's inevitable, the typical Forsyte will adopt it and incorporate it with the other items of his creed. He will ignore what is new with studied indifference ; when that is not possible, he will give battle to it with might and main; and when he meets with unexpected resistance, he will quickly discover that the new is only the old and that there is no need for a conflict at all. He is an exceptional creature— this Forsyte: and he has to be that, for he is the greatest bulwark against the gradual extinction of the human race.

The Forsyte, alas, is an ubiquitous animal ; we see him everywhere; he is you, and I, and all of us. He is outwardly confident ; he is proud, and he seems to hold his head erect ; but it is a pose, though he may not himself be aware of it. Galsworthy rightly points out that " Human Nature, under its changing pretensions and clothes, is and ever will be very much of a Forsyte, and might, after all, be a much worse animal." The Forsyte is always a useful creature ; he toils and he spins, he gathers and he secures. Unfortunately, he cannot give freely ; he cannot feel deeply ; he cannot think imaginatively ; and hence he cannot live happily. His tragedy is the " very simple, uncontrollable tragedy of being unloveable, without quite a thick enough skin to be thoroughly unconscious of the fact. " He is puzzled : and all he can do is to cling to his property ; and always he is worried, worried. He cannot be happy. He cannot bring himself to renounce a tithe of his property—and yet one day he must renounce life itself ! The very thought is sickening, and the thought is eternally tingling in the subconscious. Oh, the Forsyte's lot is hard, very hard ; pity him !



Gopis searching for Lord Krishna in the forest.

(Pahari—Kangra)

*—Courtsey, **Freer** Gallery of Art, Washington, D. C.*

Realization versus Book Learning

By PARAMHANSA YOGANANDA

WESTERN philosophers have always assumed that Truth can be known by dialectics and reason. Immanuel Kant was the first one to question if man had the faculties required to know Truth adequately. The great Sage Patanjali, who lived long before Kant, gave conclusive proof that settled the dispute about the nature of the instruments of man's faculties required in knowing Truth.

A thirsty man once went to a lake and craved at the sight of it to swallow all its waters. He found, however, that he could not drink more than the capacity of his little stomach. So sits there by the vast lake of Truth many a thirsty philosopher and seeker who aspire to drink all of its waters and hold all its mysteries within themselves. But alas, they know not that this cannot possibly be done. To swallow all the waters of the lake of Truth, one must have a capacity as big as the lake.

Ordinarily a phenomenon is known by the senses, perceived by the mind, and cognized by the inner ego. All human experiences depend for their data on the testimony of the senses. The power of inference comes after and draws conclusions from the material supplied by the senses. If smoke is seen to emerge from a distant hill, John concludes the hill is on fire. Why? Because he had seen fire and smoke together before. But in this case, it was not smoke but a cloud of dust on the hill. John was mistaken in inferring the hill was on fire. Whenever the data furnished by the senses are wrong the conclusion is wrong. Hence though the power of inferential reason has its uses, still it is incapable of proving the ultimate nature of Reality.

Our sense radios can only intercept certain rates of vibratory messages of qualities, appearances--not the substance, the thing-in-itself. Our senses give reports of phenomena, not of noumena. Look at an orange—you perceive the colour, touch, smell, taste ; one perception at a time. A combination of these perceptions is called an orange; none knows what the thing, the orange, is in itself. The orange is not the colour, nor the taste, nor the softness—but is the force which combines these qualities harmoniously to produce the effect of an orange. A manufactured orange may be produced with a sponge, orange juice, orange scent, and orange skin, to look, taste, and feel like an orange. As our senses only perceive qualities separately, an artificial combination of the colour, taste, smell and touch may easily lead the senses and the power of inference to believe a manufactured orange to be a real orange.

None knows what the real orange is. Perhaps it is the intelligent combination of differently vibrating atoms representing colour, taste, solidity and smell, around one nucleus. Our senses do not tell us that, but our wisdom does. The vast universe is nothing but an ocean of energy lying about us ; high overhead as rivers of the milky way, twinkling stars, solar systems; beneath our feet as solid earth. The physical body with its etherial thoughts, the sparkling lakes, heaving ocean, sky, air and fire—all are but the vibrations of the same cosmic energy. Yet the senses differentiate and tell us the delusive story that the solid hurts us, the liquid drowns us, the fire burns us, the sky does not hold us, the gas chokes us.

As ice appears from water, steam, hydrogen-oxygen gas—so appears the universe as the solid earth, ocean and vapours. All are the manifestations of one and the same substance. All the ninety elements of which the whole universe is comprised are made of one electronic energy which, in turn, is composed of conscious cosmic energy. Our senses tell us only of the most superficial aspect of matter, deceiving us into thinking that ice is cold, heavy and solid and that the steam is hot and fluid, and that the atoms in it are composed of burning luminous electricity.

Our senses do not tell us the truth—that the electrons in a small pencil could explode a skyscraper, and that the energy released from the electrons constituting a human body could explode a part of Mount Everest. If our senses spoke the truth we would see the earth not as solid, liquid and gaseous, but as rivers and glaciers of electrons Each speck of dust would appear a rolling mass of light.

It might be reasoned that though our senses deceive us, our powers of reason can give us new truths. That is true. We must however, remember that all the knowledge derived from experiments carried on by the help of the microscope, mathematics, and fine instruments, has to come through the senses. The senses, and the reason working on their testimony, have only told a millionth part of the truth about the nature of matter and all things. But yesterday atoms were considered ultimate—now they are further analyzed to contain the finer materials of electrons. Thus neither the senses nor the power of inference which builds knowledge on sense testimony, can be trusted to tell us the truth about the earth, the universe, the human body, or the mind.

Every religion claims its Bible to be of divine origin. Some hypocrites have even buried books, written on old papyrus, underground, grown grass on them, and then under supposed inspiration led mobs there to dig out and recover the "God-given book." How are you going to find out which book represents truths ? The number of believers cannot be the proof. Galileo, one single man, believed

the earth round and suffered persecution on that account, while all the people of the world believed that it was flat. Hence the belief of the millions of followers of the Christian Bible or the Hindu Vedas cannot establish the immutable universal nature of the principles inculcated in them. Of course by reading and hearing sermons from the Bible and Vedas we can find certain moral advice and suggestions of right human conduct which can benefit all races for all times. But that does not prove the deeper Truths mentioned in them.

The Vedas and Bible both declare God as a living, kind, responding Ruler of the Universe. But reading those words does not prove it. Has anyone consciously seen Him? Our senses see the colour in flowers and our mind perceives the beauty, but who can tell, that One Intelligence pervades the Universe? Who can tell that the Vedas and the Bible are infallible? Isn't there some husk, some crust of superstition in both books? We have to separate the husk from the kernel. We must find the Truth as separated from the language and limitation of expression used by its propounder.

Therefore the sage Patanjali, the founder of the Yoga system in India, says, that the authority of the scriptures is not proof of its Truth, because the scriptures no matter who propounds them, have to be received through the sight, hearing, limited imagination, and the reasoning powers of the reader. All seekers, all denominations, whether Unitarians, Universalists, Baptists, Methodists, Episcopalians, Congregationalists, Christian Scientists, Swedenborgians, Catholic or Hindu Christians, all interpret the Bible according to their own degree of development and power of reasoning. That is why there are so many cults formed out of the one universal teaching of Jesus Christ.

The proof of applying the laws of Patanjali in finding out the real Truth about the pure universal teachings and Scriptures undiluted by the limitations of our opinions, is to live it in life. I asked a knave if he read the Christian Bible. He replied, "I have read it a hundred times, Sir ; I know all about it." "Alas," I said, "You know nothing about it because you are still a knave." That is why in ancient India the Vedas and the Hindu Bible of Bhagavad Gita were not printed for centuries. They were handed down through the memories of devout disciples and only some knew all the truth. Others were told not more than they could realize at one time.

Nowadays, any Yoga book or scripture or the Christian Bible can be bought for a few cents and intellectually swallowed. Swallowing one's own idea about the scriptures without digestion only creates a greed for more books and more new ideas, but chronic indigestion and spiritual non-assimilation will result.

Everywhere we see Pundits, living, moving dictionaries crammed to the brim with intellectual knowledge. But have they the ability to

put all that wisdom they have memorized into practical achievement and manifestation in their life and character ? If not, then their knowledge is vain and is really ignorance.

This is happening in the West and in the East. Each phase of intellectual study of scriptures must be substantiated by corresponding realization and then a little more should be read and realized and so on. Every theory and belief must be practised and its truth found out. Belief is no safety, for it produces the ignorance of false satisfaction born of dogma. Scepticism is refusal to investigate further. It is self-inflicted punishment.

Sophistry and intellectual belief may produce temporary satisfaction but they are short-lasting, vanishing like soap bubbles before the blast of deep scrutiny. Followers of religious teachings should build their faith on the unshakable rock of realization. According to Patanjali, any real inner spiritual teachings cannot be understood through the testimony of others, or listening to their interpretations, but can be grasped only by testing them directly by the power of intuition.

I know I exist. I am not the body—it is my body. I think. I am not the thought. Therefore this consciousness of the I-ness in every man cannot be perceived through the senses, cannot be inferred about through the reason. Then how do I know I exist? From direct perception of my intuition and not through the intermediary faculties of sensory perceptions and reason.

Through the ages the red pages of history tell of many religious inquisitions, burning of martyrs and so-called witches, wars of the crusades, and so forth—brought on by the limited interpretations of scripture.

What you listen to, what you read in books—try to meditate on that long enough to be one with the thought underlying it. Then try to manifest that realization in practice. Realization comes from constant wide-awake meditation, with ever-busy, ever-searching mentality to convert theory into solid knowledge through practice.

All beliefs must be thoroughly scrutinized. Overstudy must be avoided. Indiscriminative study, especially of religious books written by novices or untried enthusiasts, mostly results in indigestible hashes of imagination, emotional outbursts, and diluted realization. Patanjali Yoga Philosophy, the Christian Bible, the Hindu Bible – Bhagavad Gita, and a few other books written only by men of real realization, must be studied, a little at a time, and meditated upon for hours or for days together. The best time to read scriptures is after practising meditation when the intuitive feeling is awake.

My Master, Swami Sriyuktesawar Giriji, once told me one of his experiences in the real studies of the scriptures in a hermitage. His great Savant Guru (teacher of Gita) was sitting surrounded by his disciples.

The sacred book was open before them all. They were looking steadfastly at one passage. A half hour passed, then they closed their eyes. A half hour passed again, then the Master explained for a few moments the same passage upon which they were concentrating. They all meditated motionless for an hour—then the master asked a question, "Have you understood?" One of them answered, "Yes, sir." The master replied, "No you didn't—let us meditate again." They meditated for another half hour. Then the master asked his disciples again, "Do you all now understand what you read?" No one spoke. Then the master said "Our study today is over". He then turned to my master and asked. "Have you read the Bhagavad Gita?" My master replied, "No sir, although my eyes and mind have run through its pages." His Guru smiled and with great joy said, "You are the only one of the thousands I have met who said that. But indeed you have read it. When one is engrossed in knowing, he does not have the time to think whether he knows or to say he knows. He is too busy knowing—others are too busy saying they know, that's why they have no time to make the effort to know".

Sacred and inspiring books are helpful in stimulating the desire for realization, if a little at a time is assimilated. Otherwise overstudy of books produces vanity, false satisfaction, that one knows when he does not know at all. Ramakrishna said, "I pity the ignorant, I love the unread man of realization, but I consider a bit of straw the man of book learning without realization. I can blow him away by a puff of questioning about realization. I admire, love and respect a man who has realization as well as the intellectual knowledge of different scriptures."

Let not love of book reading or ceremonial diversions be the delusion to divert you from realization. God-realization first, books and everything else is of secondary importance. Have Him and you have everything. Seek ye the kingdom of God first, and all things will be added unto it—all wisdom, prosperity and beauty. Get the tree of all life, and you shall have each of its fruits too.

The Wrong Doer

What to do with him.

By M. S. SRINIVASA SARMA, M. A.

"Revenge, my friends, revenge and the natural hatred of scoundrels and the ineradicable tendency to pay them what they have merited is for ever more intrinsically a correct, and even a divine feeling in the mind of every man". *Carlyle.*

'Whosoever shall smite thee on thy right cheek, turn him the other also".

" How often are we to forgive ? Will seven times suffice ? I say not unto thee, Until seven times; but, Until seventy times seven". *Jesus Christ.*

EVERY individual belongs to a social system ; life is necessarily social. Personal life and social life are so inextricably interwoven that it is impossible to separate them.

Progress consists in the deepening in the individual of his social interest. The membership we enjoy in the social order involves rights granted to us, and rights which we should grant. Our duties and virtues are at every point dependent on our relations to one another. We cannot isolate ourselves from society, and perfect ourselves *in vacuo*.

The necessary condition of social order is justice. It is fundamentally a social virtue, and is the governing principle that regulates the due order of individuals in the interests of social unity. One of the most pressing problems in connection with justice is the nature and purpose of punishment. The increasing appreciation of the value and sanctity of personality has resulted in a more considerate and sympathetic attitude towards the individual members of human society. This is best illustrated in our thoroughly changed outlook on the criminal and the punishment accorded to him.

How to deal with the wrong-doer ? What is the right attitude to be taken towards the criminal ?—are questions that have been the subject-matter of interminable controversies in ethical and theological treatises. The traditional theories of punishment, namely, the preventive, the educative, and the retrilentive, do not solve the problem ; because, everyone of them is riddled with internal contradictions and is inherently defective in many respects.

There are two fundamental points with reference to punishment which must be clarified at the outset. Punishment generally means the infliction on the wrong-doer of something unpleasant, which by his offence he is held to deserve. If this be the case, the questions to be decided are first, what exactly is meant by " deserve ", and secondly, why it is right to inflict on the man what he deserves.

The wrong-doer is an aggressor; his actions are openly anti-social and clearly infringe on the rights of others : they tend to set at nought the social, good and the majesty of the law ; therefore it becomes imperative that some curtailment of his liberties by way of imprisonment or some other form of punishment should be effected at once and without fail, before this bad practice becomes a precedent, and establishes itself as a rule. That is to say, punishment ultimately is the vindication of the majesty of the law when it is violated.

But does punishment really vindicate the worth and authority of law? No, it certainly does not. What it does is simply to prove that disobedience does not pay, and not that it is wrong and immoral. It points to the wrong-doer that he is living in a system, the nature of which is so opposed to his aims that if he tries to realise them, he will earn, not success but disaster. Therefore punishment by itself can never vindicate the authority of law, that is, its right to be obeyed ; what it really establishes is its capacity to make disobedience imprudent and painful.

Thus to determine if punishment is really deserving, we must first fix and justify the system of purposes and rights to maintain which punishment exists to meet cases of violation. If it is possible to maintain the system of social rights by some other method equally or more effectually, then punishment would certainly cease to be a justifiable institution. One particularly praiseworthy and uniquely effective form which absolutely dispenses with punishment is the moral imperative of Chirst who advises us to adopt the specific and active procedure of making the aggressor understand that we have no objection to his carrying his aggression even further than he has proposed : " whoseever shall smite thee on thy right cheek, turn to him the other also !"

What does Christ mean by this teaching? Our rights and privileges, our possessions and properties, though resident in us individually are really social in significance; they derive value and meaning only because they are recognised as such by society. Hence, if the criminal steals, he has violated not the will of this or that individual whose property he takes away, but the will of the community. Therefore it is that the State through its system of criminal laws enforces the punishment which is a kind of safety-valve for the righteous indignation of the Society.

But Christ strikes a thoroughly different and novel note here. What is the attitude of the man who, when struck on one cheek, feels inclined to turn the other? He has hitherto felt really and in earnest that his cheek was safe from assault; but now he has lost that feeling as he finds this privilege of freedom from assault derived to him by his assailant. He is so friendly, so brotherly, and so genuinely social by training and temperament that he can have no real joy in his possessions unless his enjoyment of them is freely recognised by all and willingly acquiesced in by every individual. This is exactly the fulfilment of the Law, the perfecting of morality. The alchemy of this

attitude is so powerful and effective that it reveals to the offender the anti-social nature of his wrong-doing in such an emphatic and telling way that it naturally shocks him into a better life!

Christ came not to destroy but to fulfil. His aim to formulate a formative method which will undo the wrong done, educate and reform the wrong-doer, remove the rancour in the man against whom the offence was perpetrated, set right the balanced social life which has been disturbed and give him an opportunity to resume his life in a better and more chastened spirit. Therefore as a corollary to his principle of "Turning the other cheek," Christ decides that the best and sure annulment of an offence is pardon. Forgiveness is reconstructive, looks to the future, and reckons with the possibility of infinite reform and lawful growth on right lines. His abundant and confiding faith in the innate goodness of man finds expression in his advice that we should "forgive not seven times, but seventy-times seven".

To Him, wrong-doing is only a temporary aberration. Deep down in the profound depths of the soul there is the inherent goodness of man which must be touched if he should be roused to a full consciousness of his guilt. It is in this sense that men are said to be born afresh. This is exactly that unique spiritual experience called "conversion" which makes the individual fully conscious of the degradation caused by his wrong-doing, the natural effect of which is a thorough transformation of his character. The teacher, the parent and the religious leader have this spiritual weapon of forgiveness to carry out effecting their appointed tasks. Forgiveness guarantees that the evil of the past will not destroy the possibilities of the future.

Every parent knows that the children are oftentimes deceitful, selfish, and cruel ; but on that account he does not conclude that they are by nature evil. On the other hand, he most humanely and with a heart overflowing with love and affection feels that the children are plastic, and could be moulded into a better life by the salutary influenence of forgiveness and love ; and we actually see that this works splendidly, and that in fact there is no other method which is as effective and as beneficial as forgiveness. This gives us a new richness, and helps us to look on humanity with a new love and a new hope. It is forgiveness that makes for association and mutual trust.

Psychologists tell us that the instinct of self-preservation is the first law of nature, and is perhaps the most powerful impulse. The urge to live is great ; but our knowledge of the world we live in is woefully meagre ; our experience of men and things is painfully limited ; and the course and circumstances of our lives seem to be hopelessly fortuitous. Social life which guarantees mutual help and reciprocal dependence seems to be the only proof for individual existence. Therefore we have to trust our fellowmen, and forgive them their transgressions. Of course, it is a great risk ; but it has to be taken for the sake

of friendship. In this world of chance and uncertainty where greed, pride, anger and hunger are the usual motives, and where irrational passions and repeated frustrations are the order of the day, it is impossible for men not to hurt each other. Therefore Christ warns us "Judge not, that ye be not judged." Thus if we want to live, we must forgive ; and by forgiving we not only enhance the richness of other people, but also we ensure our own lives.

Brotherhood of man, the need for repentance, and God's readiness to forgive are all empty and futile words, unless they find concrete expression in a living personality. Religion and morality can be taught only by personal example ; and example is so powerful that if it is correct and good, nothing else is necessary. When at Calvary at the time of crucifixion, he was reviled and rediculed, Christ prayed to God "Father forgive them, for they know not what they do." Can anything be more magnanimous and more majestic than this frame of mind ?

We are all familiar with the oft-quoted maxim that "he who knows all excuses all." After all is said and done, nobody does the wrong act for its own sake. Even in the case of the worst offences, it is possible that the criminal has been the victim of circumstances, and that he could certainly have avoided the crime, had he been properly trained in correct forms of conduct. Modern Psychology has thrown a flood of light on the behaviour of the criminal, and has pointed out that crimes are largely due to lack of intelligence, want of inhibitory power, temporary fits of insanity, and other biological and sociological factors which are not under the control of man. In such circumstances punishment will certainly make the situation worse, and confirm the criminal in the anti-social and disintegrative deeds.

Long before Christ, Socrates had a glimpse of this truth and pointed out that virtue is knowledge, and therefore vice is ignorance. The cardinal aspect of all virtue is knowledge which works for the completeness of interest in the good, and tireless effort in realising it. This function of knowledge in moral action is emphasised by Christ in his prayer "Father, forgive them, for they know not what they do."

One other important implication of Christ's attitude has to be specially mentioned here. If crime is due to lack of knowledge, then virtue becomes identical with knowledge. The significance of this identification is that virtue can be effectively taught, not like science or geometry at the point of the birch, but by concrete life and living example. If virtue is teachable, the task is to find the right method. Not mechanical teaching, but concrete experience and living contact with perfected personalities is the sure aid to character-formation and spiritual discipline. The ennobling value of Christ's teaching is that sin and suffering are evils that could be cured and eradicated. It substitutes repentance for punishment, forgiveness for vindictiveness, and transforms what is avowedly a valley of tears into a vale of soulmaking.

Yoga or Modern Science?

By LAURIE PRATT

MODERN inventions merely copy nature. The telescope is only equivalent to a pair of abnormally bright eyes and brings us merely an extension of vision. It cannot give us a new sense, but simply enlarges the sense of sight we already possess. Knowledge of the electro-magnetic world of atomic structure has opened to us universes so infinitely small that the microscope itself cannot perceive them and we must represent them with mathematical equations. But we understand that, given a microscope of sufficient power, the atoms, being forms, could be seen. We see light, though it travels 186,000 miles a second. We see Andromeda, and the inconceivably distant universes of stars, with the naked eye.

Because we cannot go beyond sensory perception (for even thought and imagination are forms perceived with the inward eye or the inward sight) the ancient Hindus and doubtless every other great race of the past Golden Ages built up their systems of mental science, Yoga, through which the senses were refined, broadened and sharpened, so that all natural phenomena lay open to their true-seeing gaze.

The whole body of scientific inventions, of which the modern world is so proud, was totally unnecessary, an encumbrance, in fact—like spectacles to a man of good vision—to Golden Ages rishis. Red begins the spectrum of colours, and red ends it, but the intensity of one is not the intensity of the other. Though it is true that extremes seem to meet, and that both the most backward peoples and those belonging to the highest civilizations, do not have inventions and observatories and scientific laboratories, yet in the first case, it is due to the ignorance of Kali Yuga (Dark Age) and in the latter case, to the perfected insight of Golden Age men. So we need not conclude, because the ancients left no records of inventions such, as we have today that they were ignorant men. Inventions are for Dwapara and and Treta Yugas (the Bronze and Silver Ages), the midpoints between savagery and true civilization.

Thinkers of our own age are not failing to point out that our inventions are likely to lead us to ruin unless and until we are morally developed enough to direct and use them rightly. Without a better understanding of his own nature, man is not fit to be trusted with a knowledge of nature and her dynamic forces. So the Golden Age men developed and perfected a science of man, Yoga—not a science of nature, for that follows automatically.

Man too is a solar system, a universe, fit for the profoundest study. He too has a Grand Central Sun within him, the Spiritual Sun. He

too is a Creator and by him creation was made, is preserved and shall be destroyed—the trinity of all religions. Yet what does he know of himself ? Man can harness the lightning, tame the wind, control the elements, pluck the Moon from the sky and bring it to his own doorstep with his telescopes, more easily than he can control his own passions. Yet that was the goal and the achievement of Golden Age men, the " god " of all ancient mythologies.

Out of millions Jagadish Bose, a Newton and an Einstein are born, with enough natural concentration to penetrate some of the secrets of nature. These men are true men ; Newton was deeply religious, and Einstein is a true humanitarian. But the results of their discoveries, the host of practical inventions that follows each new discovery of the laws of nature—can these be entrusted to the hands of ordinary men ? Are not discoveries in physics and chemistry put to destructive use, as in our present wars ? The undeveloped man has always used discoveries and inventions to enslave others, and the machine age is far from a perfect one.

Such are the dangers of inventions. The forces of nature are not for the use of weaklings. First perfect the man, then he will know how to utilize nature. We do not need to perfect a cosmic-ray method of curing cancer, but to produce a race of men of pure minds and bodies where no cancer can grow. Man is the problem, not nature.

The time spent on science in this age is not misspent, because the more we discover of natural laws and their practical utilization, the more quickly we will see that without a corresponding extension of knowledge of man and his own nature and its control, the spector of world-wide destruction is the only promise of the future.

World peace is only the dream of visionaries so long as man does not know and is not taught how to control his passions. Whether he fight with poison gas or from the air with bombs, or with his bare hands, he is still a victim of his own ignorance. If he can live at peace and in harmony and co-operation with his family, his neighbours and his friends, then he is fit for world peace. When nations are composed of men like that, then we can expect world peace. Man is the measure of all things, according to the Hermetic teachings and all ancient philosophies. World conditions can do no more than reflect the temper of man.

It was for this reason that Buddha, Christ, all the great teachers of mankind stressed one point and only one—the conquering of human passions. They did not attack institutions nor initiate sweeping outward reforms of social or economic conditions, because these are only an effect of far deeper causes. The sages who have guided mankind did not bring inventions with them nor point out new ways to enslave nature for the daily purposes of man.

The conquest of the internal nature is the only fit occupation for a human being. Otherwise he is no higher than an animal. Spiders can spin a geometric web; the ant is the greatest organizer in the world. A monkey can put any agile athlete to shame; the hibernating animals can live without food or drink; a turtle can exist for hundreds of years.

A body of strength and endurance is not the measure of a man, nor his command of mathematics nor the extent of his scientific or artistic ingenuity. The measure of man is his control over himself—his lower self, his thoughts, his impulses, his desires and his actions. This goal can never be achieved without a knowledge of his own nature, such as is embodied in the psychological, mental and spiritual sciences of Yoga. These sciences all rest on the same fundamental foundation of morality (*yama* and *niyama*), non-stealing, non-injury, truthfulness, etc. This is the starting-point of all religions as they were laid down by their founders.

Science, such as we know it today, can never be anything but fallible. There is no such thing as certainty or finality, when the proof must depend on the ordinary perceptive sensory powers of man. If the sensory instruments are faulty, so will be the conclusions. And all inventions depend on the senses of man to utilize them.

Golden Age men, therefore, set out to perfect their inward sensory instruments, and did it so well that there is no modern discovery of Natural law that has not already been known and elucidated by the ancients. What fragments of natural laws have been discovered through physical instruments by the moderns were known, and far more comprehensively, by the ancients without any other instrument than their true inward eye.

Modern science can never hope to do more than confirm what the ancients have already said about the nature of the universe. The conclusion of scientists today are minus the ring of conviction, for knowledge obtained by outward means can never fully satisfy the nature of man, and there is always an element of doubt connected with every man-given dictum. The fore-most scientists of our time openly acknowledge that they expect their present views to be overturned by later developments.

But the ancient rishis *knew*, because they had *seen*, and not merely arrived at their conclusions by the trial-and-error method. Hence they could sing of the laws of the universe, could mix science and poetry and music, as later Pythagoras did, with the utmost serenity, knowing that future ages could do no more than confirm the timeless truths they were giving out.

The Supramental Yoga of Sri Aurobindo

By ANILBARAN ROY

THERE is a growing interest in the country to know the real nature of the work and sadhana in which Sri Aurobindo is now engaged. The reason why people find it difficult to understand Sri Aurobindo's Yoga lies in the fact that though it is based on the ancient spiritual teaching of India, it is still a new thing; it is not a mere repetition of any of the great systems of ancient Yoga which are still practised in India. We shall try in this article to convey to the general reader some idea of the great work for the sake of which Sri Aurobindo has had to cut himself off from all external activities.

In our age it was given to Ramakrishna Paramhamsa to exemplify in the great and decisive experience of a master-soul the truth, now most necessary to humanity, that all sects are forms and fragments of a single integral truth and all disciplined labour in their different ways tend towards one supreme experience. He showed the essential unity of all religious and spiritual disciplines; but a synthesis of the powers and potencies of all methods on the basis of these essential unity – that is what has been achieved in the integral Yoga of Sri Aurobindo. It has been effected by "neglecting the forms and outsides of the Yogic disciplines and seizing rather on some central principle common to all which will include and utilise in the right place and proportion the particular principles, and on some central dynamic force which is the common secret of their divergent methods and capable therefore of organising a natural selection and combination of their varied energies and different utilities."

An integral view of the goal of spiritual sadhana has necessitated such a synthesis. Sri Aurobindo does not regard this world as an illusion or as something essentially evil or imperfect which we must give up in our search of true perfection and bliss. The individual soul is an eternal portion of the Divine whose nature is *sachchidananda* and it has descended into the darkest material existence so that it may be turned into the stuff of a new manifestation—a manifestation of the infinite *sachchidananda* under the conditions of terrestrial existence. That explains the many heavenly dreams man has been seeing from ancient times – the dream of conquering disease, old age and even death, the dream of replacing the present life of egoism and strife among men by a universal reign of peace and harmony and love and beauty, thus bringing down the kingdom of Heaven or the Satya-Yuga on the earth. But all the efforts of man to realise these great ideals have failed on account of the imperfections of his vital and

physical nature as well as the imperfections of the mind itself which is the highest faculty as yet evolved in terrestrial life. The human mind can form ideals of the true, the good, the beautiful, but finds the inertia of the body and the desires and passions of the vital insuperable obstacles to their realisation, except in very faint imitations. It is for this reason that spiritual sadhana has tended towards giving up this physical life and searching perfection in some supra-physical existence. But if the world be a manifestation of Brahman, matter itself cannot be anything else ; indeed the Upanishad speaks of Matter being Brahman ; then it follows that *sat chit*, and *ananda*, being, consciousness and bliss, are involved in it and are waiting for manifestation. And that is the real meaning and purpose of terrestrial evolution, of which modern science has given us a very imperfect account. Matter has evolved life and life has evolved mind, and now mind is trying to evolve a higher principle to which Sri Aurobindo has given the name of Supermind, but which was known to the ancient seers as Vijnana. Only when this higher principle has evolved all the problems of human life can be solved and man can attain that divinity for which he is destined. Until that happens spiritual sadhana can only lead to some sort of spiritualisation of the mind leaving the vital and the body untransformed, thus necessitating the eventual giving up of the bodily life as an obstacle to spiritual realisation. By mental and moral discipline one can have some control over the senses and desires and live a *satwic* life of peace and mental clarity; but its achievements fall short of our highest spiritual possibilities, and even then they are in themselves precarious, for at any moment a *satwic* man can be overtaken by *rajas* or *tamas* which always lie in wait biding their time. How far a man can rise by mere mental and moral discipline is best exemplified in our day by the lofty character and personality of Mahatma Gandhi. He has taken certain mental ideals, such as non-violence, celibacy, poverty, and has made a strenuous sadhana to mould life according to them. But after life-long endeavour and experimentation he, like Tolstoy, has come to the conclusion that embodied man can never reach perfection in these things, and that one can have a fall even with one foot in the grave. The Gita also has said the same thing.

Mahatma Gandhi has given the advice that one should keep constant and strict watch on oneself so that there may not be any attack or fall, but how many can live keeping such a constant guard on themselves? So the aim of spiritual discipline should be to transform the whole nature, mental, vital and physical in such a manner that there will no more be any chance of a deviation or a fall. Ramakrishna gave a nice example to make this clear. A brass vessel has to be constantly cleaned and polished, otherwise it becomes dirty; but if it can be once turned into gold, all this trouble becomes unnecessary. How this brass vessel of human life can be turned into gold--that is taught by Sri Aurobindo's Yoga.

The higher animals are sometimes trained to perform intelligent acts like human beings. But whatever be their training, animals can never acquire the powers which men possess as a matter of course on account of their higher evolution. Human powers acquired by animals can at best be only poor imitations. Similarly, the powers acquired laboriously by men by various moral and spiritual disciplines throughout the ages, are, at best, only poor imitations of what man will achieve naturally when he evolves into a higher species. Hatha Yoga and Rajayoga have proved conclusively that the possibilities of the body, life and mind of men are immense, that there are many super-normal faculties latent in man which are waiting for manifestation. By its numerous *asans*, *bandhas* and *mudras*, Hatha Yoga gives the body an extraordinary health, force, and suppleness and seeks to liberate it from the habits by which it is subjected to ordinary physical Nature. But the most important instrument of the Hathayogin is *pranayama*. It completes the perfection of the body. The vitality is liberated from the ordinary necessities of physical Nature; robust health, prolonged youth, often extraordinary longevity are attained. On the other hand Pranayama awakens the coiled up serpent of the Pranic dynamism in the vital sheath and opens to the Yogin fields of consciousness, ranges of experience, abnormal faculties denied to the ordinary human life. Rajayoga utilises the simpler methods of Hathayoga for controlling the body and awakening the *Kundalini*, the coiled and sleeping serpent of Energy within. This done, the system proceeds to the perfect quieting of the restless mind and its elevation to a higher plane through concentration of mental force by the successive stages which lead to Samadhi. The Yogin possessed of the highest supra-cosmic knowledge and experience in the state of trance is able in the waking state to acquire directly whatever knowledge and exercise whatever mastery may be useful or necessary to his activities in the objective world. The weakness of these methods is that they make too great a demand on the time and energy and rely too much on abnormal states of trance. Thus the utilisation of their results for the life of the world becomes either impracticable or is extraordinarily restricted. The triple path of devotion, knowledge and work differs from Rajayoga in that it does not occupy itself with the elaborate training of the whole mental system as the condition of perfection, but seizes on certain central principles, the intellect, the heart and the will and seeks to convert their normal operations by turning them away from their ordinary and external preoccupations and activties and concentrating on the Divine.

But the results that are achieved by all these different modes of strenuous discipline are, as we have said, only indication of the powers which men will possess not as an accuisition by effort but as a birthright when they will evolve out of themselvesa higher species of supermen; and that is the true goal of terrestrial evolution. It is, no doubt, difficult for the modern man to have faith in such a consummation.

But if we accept the Vedantic view of existence that all this world is Brahman, that it is born of *ananda*, exists by *ananda* and proceeds to *ananda*, then such a consummation seems to be an inevitable one. One whose very nature is *sachchidananda* could not have manifested this world out of himself simply for the sake of suffering; if suffering be a reality in the world, it can only be a means and a crude stuff of some unprecedented delight, and until that is realised this wonderful world remains unfulfilled. Delight is the essence of existence, and not suffering. "If there were not this all-compassing ether of Delight of existence in which we dwell," says the Upanishad "if that delight were not our ether, then none could breathe, none could live." When this hidden all-compassing, all-sustaining delight is fully manifested, all our human suffering will be transmuted and merged in an ocean of unfathomable unthinkable divine joy. Humanity driven by an insistent inner urge is marching towards that goal through all its viscissitudes and tribulations. The present life is full of strife, suffering and death and one can no doubt escape out of it into some super-cosmic existence by following any of the Yogic methods; but then the purpose of this world play remains unfulfilled in him. We find this magnificent and pregnant phrase in the Koran, "Thinkest thou that I have made the universe and the earth and all that is between them in a jest?" So it is God's will that we should fulfil our destiny on this earth, and that destiny is to evolve out of ourselves a divine humanity or a race of supermen.

Modern science also points in the same direction. It has discovered an upward evolution in Nature from matter to living beings and from living beings to man, and there is no reason why the process should stop abruptly with man, for the possibilities of that evolution still remain unfulfilled. Science cannot as yet clearly foresee the next step in the evolution, because it analyses only the external process and has no means of looking into the inner cause. We do not see matter develop into life or animals become man; all attempts of science to manufacture life out of matter have failed. How then did these miracles happen at certain stages in the history of the earth? Yogic knowledge furnishes the true explanation. It finds that this world is a graded one consisting of many planes of existence, such as the Material, the Vital, the Mental, the Supramental, each of which is a special formulation of the infinite *sachchidananda* and contains in itself the possibilities of all the other planes, which it can manifest in its own way under its special conditions. These planes act and react on each other. The earth is in the material plane and it is the field for the manifestation of the other principles under material conditions. Life has manifested in matter by the pressure of the Vital plane of the earth; so mind has evolved out of earthly life by the pressure of the mental plane from above. Now it is trying to evolve the supermind by a pressure from the supramental plane. Only when the supermind has

manifested on earth, the body, life and mind of man can come to their highest perfection and a divine humantiy can be realised. Sri Aurobindo has comprehensively dealt with the philosophical as well as the practical aspects of this subject in his recently published book, *The Life Divine*.

Man can become superman not by any effort or sadhana on his part but only by a completion of Nature's own course of evolution. As man has evolved out of animal, so superman will evolve out of man. The only difference is that in the case of animals the whole process was subconscient, the animals did not take any conscious part in their evolution but were driven by a subconscient urge. In man Nature has risen to self-conciousness, and the next step in the evolution will be achieved with his conscious co-operation. This conscious process of supramental evolution is the real nature of Sri Aurobindo's Yoga, and so it can be truly called Nature's own Yoga. It is Nature which is leading man upward : all the various moral and spiritual disciplines in the past have in diverse ways prepared the race for this final ascent. It has been the supreme vision of Sri Aurobindo to see that the time of that ascent has arrived, that the supermind is pressing more and more urgently to manifest on the earth (and as a reaction the forces of darkness are rising in all vehemence to frustrate the divine manifestation, which is the true explanation of the grave crisis through which humanity is passing now) and also to discover the psychological and practical conditions under which it can be realised. It is the World Mother who is really guiding this terrestrial evolution to its goal and what we call Nature is only her most outward and mechanical aspect. Man has only to put himself entirely into her hands and she will free the godlike elements in him and shape all into an expression of Divine Nature. What is required of him is faith, faith in his divine possibilities and in the Power that is working behind, sincerity in rejecting all the lower movements of Nature which stand in the way of the divine realisation, and a fixed and unfailing aspiration. And it will be seen that this contains within itself the essential power of all the methods of spiritual discipline that have hitherto been followed by mankind.

"The supramental change," says Sri Aurobindo, "is a thing decreed and inevitable in the evolution of the earth-consciousness ; for its upward ascent is not ended and mind is not its last summit. But that the change may arrive, take form and endure, there is needed the call from below with a will to recognise and not deny the Light when it comes, and there is needed the sanction of the Supreme from above. The power that mediates between the sanction and the call is the presence and power of the Divine Mother. The Mother's power and not any human endeavour and *tapasya* alone can rend the lid and tear the covering and shape the vessel and bring down into this world of obscurity and falsehood and death and suffering Truth and Light and Life Divine and the immortal's *Ananda.*—*The Mother*.

Gita Comments on World Catastrophe

By SWAMI CHIDBHAVANANDA

THE voluminous record of the human drama on earth, popularly known as the Mahabharata, has innumerable lessons to teach to people of all ages and climes. In this great epic, history, sociology and philosophy are all harmoniously blended. While depicting in detail the parts played by the then mighty monarchs of India, the author has more or less exhausted typical cases of the rise, growth and fall of empires. All possible types of human character that have appeared and are yet to appear on the arena of the world find place in this famous literature. The coming-into contact of various human elements, their adjustment and mal-adjustments afford infinite scope for the study of the development and nature of human society. If by philosophy is meant precise knowledge of the Law that governs life, it is found nowhere so lucidly brought out as in the Mahabharata. For all these reasons and more this ancient poem is bound to be a guiding star for individuals and nations that sail across the expansive ocean of earthly life.

All the teachings of the Mahabharata condensed into a nutshell is in the Bhagavad Gita. It occupies a unique place among the scriptures of the Hindus. In proclaiming the Eternal Truth it is on a par with the Upanishads. It is also called the Smriti. In pointing out the ways and means of conforming life to Truth and Law the Gita is supremely above all other Smritis. While the other Smritis are applicable only to particular ages or societies, the message of the Gita has a universal value. It is as fresh and original as the nature that we see all around. Time does not make its message stale. Nothing in the Gita is out of date. Exclusiveness has no place in it. In other words, its teachings are not the property of a privileged few. Truth can never be patented. It is as free, common and simple as the air we breathe. Among its teachings the one on world catastrophe is what we are enquiring into in these few lines. The Gita proclaims in unmistakable voice the Law based on which great catastrophes are bound to take place time and again on this ancient earth.

The war at Kurukshetra was the climax towards which events were developing. Periodically evil force gets the upper hand in society. Virtue then apparently undergoes frequent defeats. Egotistic and self-seeking vice tries to upset the very plan of nature. Self-assertion and vulgar greed become the order of the day. The demon of deceitful treachery is let loose. Organised exploitation of the weak

and the ignorant goes by the name of administration and protection. Divinity itself embodied as a human being finds it impossible to goad the arrogant rulers to the path of righteousness. An all-effacing bloody war seems to be the only remedy against the volume of evil accumulated in society. This was the situation in which the Mahabharata war was to be waged.

In that crisis a doubt came in Arjuna's mind. Was it worth while to slaughter the erstwhile revered ones and millions of others for the sake of an earthly kingdom? Anything obtained through unholy means became unholy. He was beset with this bewilderment. Bhagavad Gita, the song celestial, came into existence to drive away this doubt. According to it no action by itself was bad. It was the motive of the mind that made action sacred or sinister. The virtuous did not contribute to the existence of wickedness on earth. But he did not also shun a necessity to revolt against it. To suffer aggression amounted to support of it. Righteousness was more valuable than kingdom, or kith and kin, or life itself. Men who were at the helm of the social order had to stake their everything with calmness and courage for the sake of righteousness. This was the core of the message given to drive away the temporary delusion that had clouded Arjuna's mind.

As important as the attainment of this frame of mind was the vision of the cosmic plan that the Lord of Yoga gave to the champion of virtue on earth. Death was the wage of sin. Wickedness seemed to thrive. But at the ripe moment it had to pay dearly in the form of total destruction. Arjuna was given the intuitive faculty to cognize the cosmic power that wrought destruction on the wicked and the incorrigible. Personifying the infallible power he described thus: "O Vishnu, beholding Thee touching the heaven, shining in many hues, with wide open mouths, with broad and fiery eyes, I am confounded at heart, and find neither courage nor peace. Seeing Thy mouths with fearful tusks, blazing like the fires that finally consume the universe, I am not able to distinguish the quarters. O Abode of the universe, O Lord of the celestials, have mercy on me who find no peace. All the sons of Dhritarashtra, Bhishma, Drona, Karna, together with a galaxy of kings on their side enter promiscuously into Thy mouth; and the same is the fate of the commanders-in-chief on our side. With tusks Thy mouth is awe-inspiring and terrible to behold. The heads of some are powdered to pieces and they are found sticking in the crevices among Thy teeth. Just as the rivers are flowing in torrents towards the ocean; even so do the mighty heroes of the mundane world enter Thy fiercely flaming mouths. As moths precipitately rush into a blazing fire only to perish, even so do these men rush into Thy mouths, doomed as they are to death. Thy fierce rays are filling the whole world with radiance

and burning them. O Vishnu, tell me who you are, swallowing all the worlds on every side with Thy blazing mouths".

To this query the Lord replied : "I am the mighty Time made here manifest for the purpose of destroying the world. Even if you do not fight, none of these warriors stationed in the hostile armies shall live. I have already ordained their destruction. Arjuna, you merely be an apparent cause for this purpose".

Clothed in poetic embellishment there is a great truth hidden in these utterances. Nature is not a mere mechanical movement; nor is it inert and purposeless. It functions for a supreme purpose and its plan is inviolable. At the point of the sword nature is teaching morality to man. Every infringement on the sacredness and homogeneity of life is answered with proportional punishment. In this respect death and destruction has a great purgatory value. Through its destructive power nature is constantly eliminating the old and useless, the superfluous and the heterogeneous that strikes a jarring note. The fit ones survive and the unfit ones succumb. From the mundane earth to the divine region all over the cosmos this process of destruction is going on. In its normal course it is ignored as something natural. When annihilation assumes a huge form it is called a catastrophe. If the administrative powers of the world become greedy, corrupt and incorrigible they helplessly get entangled in a warfare. Selfishness becomes so intense that each power begins to fondly hope that in and through that huge massacre it is going to acquire more advantages over its neighbouring powers. But a world catastrophe in the form of a bloody war comes to teach man a different lesson – Those that seek to acquire at the cost of their neighbours shall lose their all, and shall have neither this world nor the world beyond.

In the statements of Arjuna and Sri Krishna let us substitute the names of some of the modern world heroes to those of the ancient ones. Old vision tinges itself with new meaning. World events seem to develop headlong towards another dreadful destruction. Sri Krishna is not to-day in a physical body, but as the all-consuming Time. He is now present here. The moment is becoming mature when the modern mighty men of the world have all to be wiped out. As moths rush helplessly into a blazing fire only to perish, even so the aggressors and exploitors of the day are directly and indirectly precipitating a wholesale annihilation. If, according to the plan of nature, this is the only sovereign remedy against the gathering evils of the world, what power on earth can avert it? Perhaps the time is not far when the earth will experience one more such catastrophe; and perhaps on the ruins of the existing order a new one may be built.

His Highness The Maharaja of Mysore.

Mysore Leads

By K. S. SRIKANTAN, M. A.

A mere glance at the recent history of Mysore would make it clear that Mysore is not crawling but jumping towards progress. His Highness observed as early as 1927 opening the Mysore Dasara and Industrial Exhibition, "I should like here to say this : that in future years I shall hope to see much more Mysore in the mixture. I do not mean by this that I do not welcome our friends from other parts. I am very glad indeed that they should come here and sell us their goods and teach us new processes. But I shall be still more glad when *the time comes that they came here*, not to teach but to learn, *not to sell but to buy*, *not to* take away Mysore money but to leave their money in Mysore". The recent Dasara Exhibition made it clear that the expectations of His Highness were almost fulfilled.

In their anxiety to industrialise the State has not neglected the welfare of the villagers, for in Mysore as in British India villages remain the back-bone of prosperity. It is the desire of His Highness and the Dewan to make every village a model village. But it is too huge a task to be finished in the near future. An encouraging beginning, however, has been made in many of the roadside villages. Some of them are putting on a far better appearance than before.

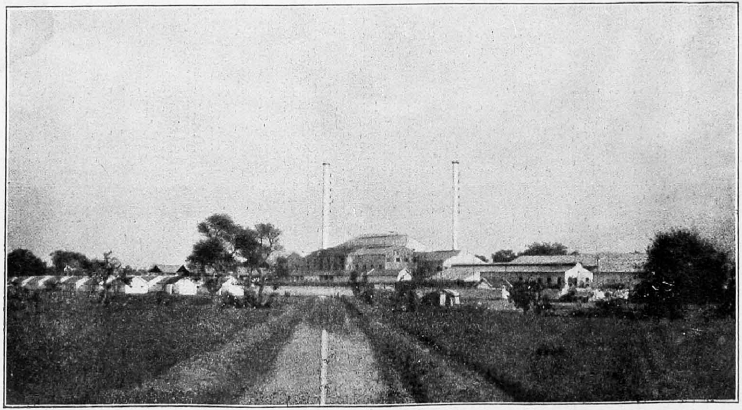
The pressure of the population in relation to food-supply has shown in Mysore as elsewhere that the development of agricultural productions should be the corner-stone of policies designed to make available to the masses not only adequate supplies of the means of subsistence but also the means by which they could command sufficient purchasing power for goods which they need, to raise the standards of living in other directions. The State has been doing all that is possible to improve agriculture.

The Department of Agriculture in Mysore deserves to be congratulated on the excellent plan of work it is pursuing for improving the lot of the agriculturist. A special feature of the work of this department during the year was the opening of demonstration plots in the ryots' own fields in which demonstrations were conducted in close co-operation with the owners and as part of the regular operations. A thousand plots in 500 villages have been formed to deal with all aspects of agricultural improvement and particularly with the advantages of using improved implements and selected seed and manuring in a systematic manner. The chemical section of the Agricultural Department has succeeded in producing jaggery of high quality by process of decolorization of the juice with active carbon. The Government have sanctioned the installation of a jaggery boiling plant on the Irwin Canal

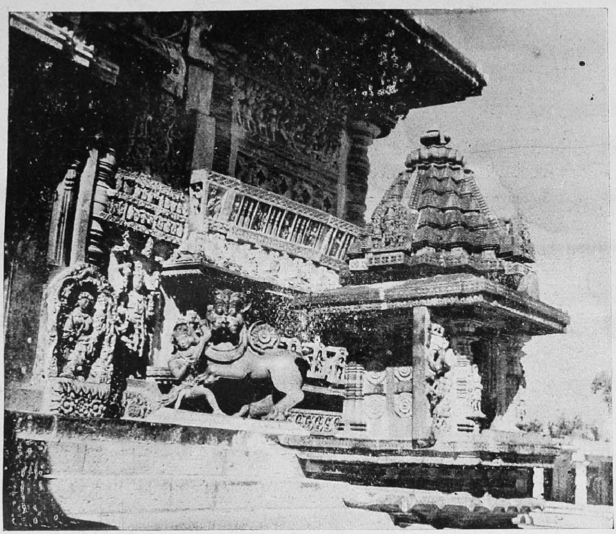
Farm with a working capacity of five tons of cane per day.' The Department also has succeeded in making use of molasses as a corrective to soil alkalinity, the use of certain indigenous plants as insecticides and good trials have been made in making composts popular among the villagers. Thanks to the propaganda of the department, the villagers in Mysore have taken to some of the newest methods of agricultural operations.

Nature has been very generous to Mysore, for nowhere in India has she been so liberal in her gifts and would have been a short-sighted policy if the State did not make use of these natural resources. As Prof. Kale said," being endowed with nature is one thing, taking full advantage of that is another". Her raw materials, mineral wealth and water facilities are too well-known to need any description here. The State has been pursuing a very systematic policy of industrialisation. The oldest and largest industrial undertaking of the State is The Mysore Iron Works, Bhadravati. This is said to be the largest factory in the British Empire producing charcoal pig iron. Various things from lamp posts to sluice gates, pipes, steel bars, rods, railings and fountains are manufactured here. The Government after careful consideration installed a steel plant at a cost of over 22 lakhs in 1936. The Iron Works are giving today appreciable profits. The Sandalwood Oil Factory is another important industrial undertaking of the State. The Mysore distillation plays an important part in meeting the world's demand for sandalwood-oil. Again, "the history of Mysore Soap-Factory is a veritable commercial romance. Started on a small scale in 1918, the Soap Factory has grown into large proportions and has proved a first class commercial project". It yields an yearly profit of more than a lakh of rupees. The silk industry in Mysore is making its way in spite of the Chinese and the Japanese competition. The silk factory and its branches have given employment to 2 lakhs of persons and the annual production of silk comes to 1·5 millions pounds. In order to utilise the silk-waste a spinning factory was set up in Bangalore, with a capacity of producing 80,000 lbs of spun yarn a year. The Mysore Silk Factory produces georgettes, crepe and excellent satin. Now refined women in India don the shimmering Mysore fabrics as if to prove that to be in the vanguard of fashion it is not essential to buy foreign goods. The first step taken by Mysore in the establishment of the factory has led others in India to take courage in the founding of new factories.

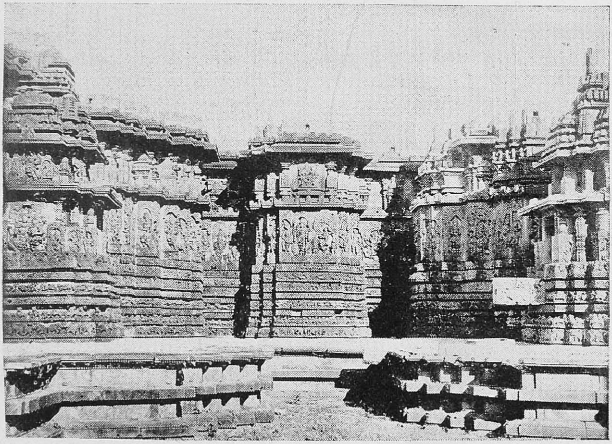
This policy of industrialisation has not been at the cost of cottage industries. In fact Mysore offers a lesson to those who think that industrialisation would kill cottage industries. Mysore believes in the possibility of factories and mills thriving at the gates of smiling fields and gardens. A number of industries subsidiary (in addition to Khadi) to agriculture have been introduced with the active assistance of the



Mandya Sugar Factory.



A group of figures beside the door-way of Vijaya Narayana Temple, Belur.



Halebid—Hoysaleswara Temple.

Department of Industries and Commerce. Besides attempts are being made to improve the other existing industries, such as handloom weaving, black-smithy, manufacture of hardware, lacquerware, and toy-making, coir industry, flaying, village tanning, leather stitching, mat weaving, paper manufacture by hand, cotton rope making, tile-making and pottery.

During the past year, the Department of Industries carried out several surveys of cottage industries in the State mainly with a view to finding out the existing conditions of these industries, the ordinary needs of the village community in each locality and how far they are being met by local production and how far the village communities are dependent on outside sources for supplementing their requirements and finally to finding out the possibilities of making the village communities self-sufficient as far as possible.

The decision of the University of Mysore to institute post-secondary diploma course in sericulture from 1940 breaks new ground in the matter of textile technical education in India. At present no diploma course in sericulture under university auspices is given anywhere in India. In fact a resolution to start such a course was defeated in the recent meeting of the Madras University Senate.

The real problem in Mysore as in India is the problem of marketing. The peasant still has no voice in the control of market arrangements, no say in the fixing of market-dues, no representation on market panchayats and no means of ascertaining foreign prices. The Government has taken steps to collect the necessary statistics by conducting marketing surveys in regard to certain important agricultural and commercial products, such as copra, paddy, hides, coffee, tobacco, oil-seeds eggs, cotton and also conducted experiments like cold storage of fruits like apples, mangoes etc. It is the policy of the Government to undertake such service in respect of every important industry as and when the occasion for it arose.

The work of the State in the Closepet Rural Welfare Centre is worthy of being imitated in other parta of India. The object of the Centre is to carry out intensive work to improve the existing conditions of rural life and economy. The activities are guided and controlled by a committee of management, consisting of officials and non-officials with the Revenue Commissioner as Chairman. Within the past two years this Centre has done remarkable work. Statistical materials have been collected for about 45 villages ; 26 villagas have been surveyed by the Sanitary Department. Some of these have been taken for intensive work in sanitation, such as opening of drains, removing "lantana", fixing of windows and construction of bore-hole latrines. A triennial programme has been drawn up for providing all villages with drinking water wells and 11 wells have already been completed ;

42 demonstrations in the use of improved agricultural implements were made. In short, the work done in Closepet Centre is the type of planned economy that villages require.

One cannot also omit a reference to the Government's scheme of Bullock Cart Hospital. Regarding grant of medical facilities to almost every village in Kadur, a scheme is under the consideration of Kadur District authorities of itinerant dispensaries housed in four-wheeled bullock carts with rubber tyres with a trailer attached in which medicines could be stocked. A public health nurse or at least a trained midwife will be attached to it and the programme of this travelling dispensary will be so fixed that it moves about within a five mile radius and is accessible to every village. The idea is that it should halt at a central place ten miles apart and visit each place twice a week. This cart will be equipped as an ambulance cart, so that bad cases may be removed to the nearest dispensary. The details are being worked out and it is proposed to try immediately one such moving dispensary. The idea of having a public health nurse attached instead of a midwife is to enable pre and ante-natal work being conducted in villages and also to undertake intensive propaganda in the matter of village sanitation and personal hygiene, systematic examination of children in villages, distribution of quinine and other useful work.

Mysore State is again the first to launch a State-wide building scheme. Mysore and Bangalore, not to speak of the many district and taluk head-quarters, have become hives of good buildings. This policy of the Dewan has created a storm of opposition for, many in Mysore think that this is a waste. But the promotion of sustained building activity over all parts of the country would be found to be desirable, whether we view our economic problem as one of providing livelihood for the masses or as one of stimulating the growth and expansion of our staple industries, It is only too obvious that if we can find ways and means of initiating a broad based building movement in India, the demand that such a movement will set up for the products of the cement industry, the iron and steel industry and a number of trades professions and callings will be sufficient not only to absorb the full, capacity of these industries as it is to-day but also to bring about a rapid expansion. A policy of reconstructing the house of every villager in India is not as fantastic as it appears, for in Rumi such a scheme is now nearing completion. (See Indian Finance Supplement). Thus the State of Mysore, by pursuing a planned economic programme, has become a model for India. It may not have Responsible Government in the strict sense of the term, but it is one of the most responsive of Governments in India.

Sulapani, the Bengali Artist of the Twelfth Century

By Dr. DINES CHANDRA SIRCAR, M. A., PH. D.

EXCEPTING the tradition regarding Dhiman and Bitpalo (Vitapala), we know little about the artists who were responsible for the beautiful icons representing the so-called East Indian School of Mediaeval Art. A passage in the *History of Buddhism* by the Tibetan historian, Lama Taranatha, contains a reference to the Eastern School of Artists headed by Bitpalo, son of Dhiman, who flourished in the country of Varendra (i. e. North Bengal) during the reigns of the Pala Kings Dharmapala (*circa* 769-815 A. D.) and Devapala (*circa* 815-54 A. D.) Another tradition regarding the two artists is found in the Tibetan work, *Pag-sam-zora-jang*; it resembles the account given by Jaranatha. An inscription of Vijayasena (first half of the twelfth century) of the Sena dynasty that succeeded the Palas in Bengal refers to another Bengali artist, named Sulapani, who has unfortunately been neglected by all writers on the history of mediaeval Indian art.

The last two verses of the Deopara inscription of Vijayasena say: "This *Prasasti*, a soft string made without knots, of the serene pearls, viz. the kings of the Sena family, is the work of the poet Umapathi Dhara, whose knowledge has become accurate by a critical study of words and meanings of words. The Ranaka Sulapani, who is the son of Brihaspati, grandson of Manodasa and great-grandson of Dharma, and who is the *chudamani* (crest-jewel) of the *silpigoshthi* (host of artists, or guild of artists) of Varendra (North Bengal) has engraved this *prasasti.*" Of the poet and the artist at Vijayasena's court, Umapathi Dhara has been remembered by the lovers of Sanskrit literature; but poor Sulapani has been lost in oblivion. The only important things we now know of him is that he was not only a Ranaka but was the *Varendraka-silpi goshthi-chudamani.* The word *Ranaka* is a title of subordinate princes. It is, however, difficult to determine whether Sulapani actually belonged to a princely family, or the title was conferred on him in recognition of his position and services as an artist at the Sena court. Again, the world *silpi-goshthi chudamani* is equivocal. It may indicate that Sulapani was the President of a guild or assembly of artists belonging to North Bengal; but it may also simply mean that he was a reputed artist hailing from a northern district of Bengal.

Of the performances of Dhiman and Bitpalo we know nothing. Sulapani is, however, a little fortunate in this respect. Only one of his

minor performances has come down to us. It is the engraving of the Deopara inscription already referred to. This inscription consists of 32 lines of uniform length. The stone measures 3′ 2″ by 1′ 9¾″, while the inscribed surface measures 2′ 7¾″ by 1′ 5½″. The smoothness of the surface and the excellent forms of the letters show even to day after the lapse of 800 years that the engraver performed his task in such a manner as would befit his reputation. Sulapani's work has been done most beautifully and with great care. Where there is a blank space after the last letter of a line, a vertical line has been put in for the sake of uniformity of length of the lines. Those who are familiar with the numerous mistakes of the engravers in mediaeval inscriptions would be glad to learn that in the lengthy record of 36 verses there are only one or two instances of carelessness on the part of the engraver.

Such was Sulapani, the great Bengali artist of the twelfth century A D.

Rural Reconstruction

Lessons From Negro Schools

By G. S. KRISHNAYYA, M. A. (Madras), M. A., Ph. D. (Columbia),

At a time when private bodies, national leaders and government officers are eagerly seeking ways and means of serving the hitherto neglected 'masses,' it may not seem inopportune to let our thoughts dwell for a while on the achievements of the "depressed classes" of America. They who have achieved so much in so short a time and under somewhat similar handicaps must surely have some light to throw on the problems of this land of depressed people. So indeed do our people seem, depressed, downcast and disheartened, — not the sixty millions of so-called depressed alone, but the vast majority of the 350 millions, in comparison with peoples of other lands, with all their hope, ambition and enterprise. It is well, therefore, for us to look into the education of these emancipated people if haply we may find the solution for some of our knotty age-old problems.

The progress of the Negro during the last seventy-five years can be considered nothing less than phenomenal. Nor is that progress limited to any one field. You notice it in the thousands and thousands of school boys and university students. You are struck with their hospitals, churches and schools. You are impressed with the banks now owned and managed by a people who started life as slaves. Your attention is arrested by the countless comfortable and happy looking homes belonging to and occupied by a race which was robbed of home life and private possession. And then what about the millions of acres now possessed and cultivated by the Negroes often producing more than the lands belonging to their white neighbours -- they who once were good only as 'field-hands'? What about the part they now play in industry and commerce, their stake in the land and their contribution to its progress? And yet, it must not be forgotten that in estimating the Negro's progress, one must look for its significance not so much in the aggregate, as in comparison with the resources which they started, and the rate of the progress of other people in circumstance not very different. The progress of the Negro is not to be measured merely by the heights to which he has climbed, but by the depths from which he has come. Especially fascinating are the achievements of the Negro to other people who have yet to shake off their lethargy and inertia and strive with steadfast faith and hope to change the ordinances of fate and circumstance. The message of hope and encouragement which the other rural people of the world may

receive is one which cannot be ignored and should not be slighted if similar progress is to be achieved.

Not less widespread is the reputation of Negro educational methods. The fame of Hampton and Tuskegee has reached India, and we have come to associate the all-round improvement of the Negro with their system of education. The changed complexion of Negro life is due not a little to the emphasis laid in their schools and colleges on factors and facilities which make for economic, social, physical and mental progress.

II

The aim of Negro education is one which is well worth noting in view of the influence it has had on all that they have done, educationally speaking.

'Education for life' is the motto which has made Hampton and Tuskegee what they are. It is the resolve to set aside any goals which tradition and fashion may have brought in and extol common sense, which has led to the introduction of features which distinguish Negro education from the literary education from which the world is now crying to be delivered. How to enable these boys and girls to make a living? What can the school do to provide a well-balanced life in the country, and make directly or indirectly for "good food and more fun, hard work and better results, houses that fit the size of the family, and more cash to bring water supply to the kitchen and a bath-tub for every home?" Nor was forgotten the importance of good health and training for effective service. And, all these are noticed as receiving special attention.

Another important principle, 'learning by doing,' has characterised Negro education. Hence the reason why the gulf between the school and the community has been so easy to ford. The aim of their schools and colleges has been to make the work at school as much as possible of a piece with the work which the student will have to do outside. To this end, he is given opportunity for doing different things by himself. The teacher makes use of the environment of the child and the home, and the privately owned acres become the basis of the work at school. Such an education may well be expected to result in self-mastery, independence and initiative.

The same insight into the real need of the people is in evidence in their deliberately aiming at changing certain ideas and attitudes which were in danger of becoming generally accepted. These schools and colleges definitely realised that the Negro's attitude towards 'work' was certain to lead him to disaster. It was not to be identified with "slavish drudgery"—as it was likely to be because of its association with the slave days. The boys and girls needed to be taught to do things which would earn them a livelihood. The health and

economic condition of the community needed attention and the unwholesome attitudes making for their perpetuation had to be firmly but carefully handled.

The conception of the school as a community institution, the centre of intelligence, has exerted considerable influence on Negro education in general. The community, like the individual, has problems which need intellectual analysis. Historically speaking, the school conceived and created for that purpose, has often become 'academic' and shut itself up in a school building so that, its intelligence became intellectualised. The net result of such a school and such schooling is to be seen in the graduate—an irrelevant fellow, who might at best adorn the world, but who would certainly be of little use in any other way. Of this type of schooling there is, perhaps, no better example than the present educational system of India. It remains for the school to escape from the school-house, and make itself at home in the whole community, learning from the whole community and teaching its learning to the whole community. The implications of this conception are far-reaching and can be noticed in almost every aspect of the schools which embody the Hampton idea. The community becomes the school and the conditions of the child's background become the teachers' problem. All the country-life problems which surround the children form the basis of the varied educational programme of the school. There is little danger of getting into ruts or of becoming boring when the tools of education are not only the books of the class room and library and the machinery of farm and shop, but also the daily problems of life-work, play, birth, death, marriage and home-making. Schools with so comprehensive a conception of their function cannot help making an impression on their communities, cannot help changing the character and conduct of their pupil-citizens and cannot help making for better health, better homes, better farms, better schools and better citizens, in a word, for rural regeneration.

III

Now with these commendable aims in mind, it may be worth while to observe what methods are employed, the means by which these high hopes are realised.

The provision of a varied and comprehensive programme of studies is one of the outstanding ways in which the desire to prepare their students for life is manifested. Ample choice in the selection of studies is usually provided in the high school and several parallel courses are offered. Depending on his or her interest and aptitude, the student joins either the Agricultural course or the Home Economics course or the Teacher Training course or the Mechanical course, or the Literary, Scientific course. Further, because of the rural nature of the population, care is taken to see that no matter what special line a student may choose, he is not left in utter ignorance of the other fields. His chances of earning an income in some special trade are ensured because though

he is given a general background of the different rural occupations he is trained to be master of at least one line To illustrate : The teachers study mechanics and agriculture, the agriculturists learn carpentry and so on. The twin perils of narrow specialization and superficial versatility are thus avoided and individual differences of taste and talent are respected.

Not only is provision made for a rich and useful course of alternative studies, but the content of the different subjects and courses is made extremely practical and easily applicable. Whether the boy is going to be teacher, mechanic or farmer, it is always borne in mind that he is going to be that in the country. For those who intend joining college the way is not blocked the literary-scientific course is meant for such and they are not discouraged from pursuing their inclinations.

The schools are equipped to make these courses meaningful. The Home Economics pupils, for example, get practical experience by living in a Practise Cottage, being drilled in the various duties of the home, preparing budgets, making their own garments in suitable styles, giving proper care in cases of ordinary illnesses, and in general, managing successfully and economically the affairs of the household. These girls also study the dietetic value of foods, and are taught some arts and crafts—hand-weaving, designing, combination of colours and all the other phases of houshold arts. Looking forward to life in the country, they take a course in agriculture and practical dairying. Not less significant are the other courses. There is the ring of reality about them, for they are at every turn linked up with life and life needs. Further, a regular course in the problems of country life is provided in order to acquaint pupils with the different factors and activities to be reckoned with and the ways and means of conducting them most effectively.

Another avenue of approach is the emphasis laid on extra-curricular activities likely to be of value on the farm or in the farm-house. Music is made almost compulsory and the boys and girls are expected to be able to be leaders of music in their music-loving communities. The same thing is true of physical culture and games and social service. It is realised that life in the country is in desperate need of recreation and variety of occupation, and that much has to be done to make villages attractive places to live in. Unless some of the amenities associated with city and town life are made available for the country as well, it would be hard to persuade promising lads to live and work there. If the best brains are obliged to migrate to the towns, there would be nothing left for the village to do but to deteriorate So it is of urgent importance to make rural life not merely endurable but enjoyable, and that could be done by importing into the country such things as games, music and drama And all these have to come through the students who attend these well-planned community institutions.

There is another means employed which contributes the drive, the motive power, to all the work being done in these Negro institutions and that is the development of a missionary zeal in the teachers and in the pupils. The pupils who go to these schools are made to feel that they are a privileged class, that they owe a debt to the folks at home in their native village to return and improve their condition, and that nothing could be too costly to give in return for the privilege of education which they are so freely receiving Similarly, the spirit of service and self-denial is inculcated in the teachers who come to work there. To ensure this, these institutions recruit, as a rule, for their teachers many of their own alumni, and other instituions of a smaller type write to Hampton and Tuskegee for their products, graduates who have imbibed the 'lighted to lighten' spirit. They realise that the teacher makes the school, and that no pains should be spared in trying to secure the very best teachers. It is the contact with enthusiastic, self-scrificing teachers which engenders idealism and devotion in the pupils. In every Negro institution one of the most noticeable features is the care with which the staff has been chosen and the keenness of the staff and management to develop in the pupils the desire to serve their less fortunate sisters and brothers.

IV

No attempt has been made here to describe what the Negro men are doing as country agents to improve the farms of the village. The splendid reforms which the women agents are carrying out in the homes of the country are not included in this article. Likewise, a description of the activities and achievements of the Junior Boys' Clubs and Girls' Clubs where the younger generation is started on its career of rural regeneration has been omitted. Attention has been confined here to an account of what the Negro school is achieving through its pupils and teachers and that because of the lofty ideal and potent principle which Negro education has chosen to pursue.

What the Negroes are to-day is really to be put down to the credit of their educational institutions. These schools and colleges have led to perceptible changes in all the different phases of Negro life, so much so that for every progressive venture, for every effort making for betterment, for every forward move, the school is the answer. "*We shall prosper in proportion as we learn to dignify and glorify labour and put brains and skill into the common occupation of life*," declared Booker T. Washington who put Negro education on this road. Here, indeed, is the secret of the Negro programme of rural reconstruction, and if our villages are to be uplifted and our masses revived, there is no surer guide than that which has given such enviable direction to the educational system of another people in many ways similarly circumstanced.

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A Modern Miracle Story

By MARGARET E. COUSINS, B. Mus.

[The following is a true story which I heard direct from the people concerned during an expedition I took years ago in Kashmir. It shows how the people who live close to epic and sublime natural phenomena believe in supernatural beings and in their power to direct earthly happenings, Shall we who are in world distress with the avalanche of war carnage bearing down on us not have faith that some great Lord or Lady of Compassion will not even still turn the current of destruction into such a direction that Time will be able to absorb, cleanse, and carry away the existent, piled-up evils through the non-violent River of Life without recourse to Terror and wholesale Death ?]

IT had been raining heavily from one o'clock in the afternoon till after seven in the valley of Soonamarg, "the golden meadow" which is 9,600 feet up in what is termed on the maps the Great Himalayan Range in Kashmir. In June that valley contradicts its name. It is then a snare and a disappointment. It is grey and dull and flat, over-powered by the ring of inimical peaks which rise four or five thousand feet above it, in one case the peak being 18,000 feet above the sea level. The rain had forced my fellow-traveller and myself to take shelter in the low, closed-in caravanserai, (where two rooms were reserved for European travellers) instead of putting up our tent as usual. But the chimney refused to draw, and at a break in the rain I put on my warmest coat and issued out to escape from the smoke and to get a change of mind before retiring for the night. I walked along the roads sensing the great loneliness of those heights and feeling a strange weirdness in the position, and uncanniness in the atmosphere, as one looked up at the snow-field clefts in the tall mountains and up the rugged peaks of sheer cliff which looked like Gothic architecture piercing the sky, seeming to let in pale wet light. There was a mystery about these glacier snows specially where one great left showed terrace above terrace of pure white snow.

Yet though there was human loneliness, there seemed to be "presences" just within some kind of veil of sight. I wondered what were the legends of the place. Then suddenly I saw two figures walking a good distance ahead of me. Even they had something mysterious about them, because they looked as if sometimes they were merged into one, and sometimes like a man and a woman, and sometimes like two men. I walked about a mile and a half, seeking to get warm and to throw off depressing thoughts after our trying day. These two figures turned towards me, and I found they were the Postmaster of

the valley and his great friend, the Telegraphmaster, who had wrapped themselves in one large shawl, and one of whom was wearing a dhoti. My mystery was solved. But the sense of mystery remained. The little Postmaster was wearing a brown, pointed cap which gave an elfish look to his peaked, white face, itself with something of the fairy nature in it. His brown eyes seemed to repeat the refrain of the brown fur and his sweet, plaintive voice was in tune with his pale and remote expression. We greeted one another with pleasure, but he seemed surprised at my being out in the twilight. I explained, and continued: "Surely, you must have many stories of strange happenings in these lonely places?"

"That is so," he replied. "At first my friend and I scoffed at them all, for we had been brought up in a Mission school, and were taught not to believe in spirits or demons. But we have lived here through the long months of snow and privation and danger. We have seen the torrential avalanches pour down the mountain-side. We have noted the glory of the flowers in this golden valley two months hence. We have heard story after story, and we have seen for ourselves, and now we believe."

"What do you believe?" I questioned, curious to know, for their manner denoted some vivid background.

"That there is a commander in charge of each of those avalanches; that there is a ruler for each of those hills; that there are countless beings carrying on their own lives unseen by us but interlinked with us."

"Do tell me what has changed your mind," I pleaded. "For instance, is there any legend connected with this craggy mountain behind us? It is the most peculiar-looking creature I have ever seen. It impressed me from the moment I came into the valley."

"Well," said he, "that is our hill of music. People are always hearing singing going on in that hill, but people are not afraid of those voices."

This reply interested me intensely because I had myself thought the upper half of the hill looked exactly like a great organ, as it was composed of pointed jags of cliffs which looked quite similar to the pipes of a great organ. It had not a blade of grass on it. It had no clay. Split up as it was into numberless shafts of granite pillar-like formations, not even a feather of snow was retained on it, unlike its surrounding brothers and sisters.

" Please look at the top of this hill," said the Telegraphist, pointing to a grassy, rounded summit on my right. "It looks very innocent now, but one afternoon during the thawing season we heard a tremendous sound. When we looked out we were utterly surprised to see an avalanche of snow sliding over the top of the hill. As it gathered momentum it came thundering down the mountain side like a great,

white river. It was an unexpected avalanche, and it was so extensive that we feared that if it poured itself right down into the river at the foot of the hill it would submerge the village by the waters that would be pent up by it during the night."

"We were in terror," continued his friend. "when suddenly we saw it swerve as if an unseen commander had shouted 'Right wheel, and the river of snow took a sudden turn and laid itself along that flat part at the side of the river, and piled itself up along the bank."

"Yes," added the Postmaster, "it mounted as high as fifty feet and remained there quietly until it melted in the course of time. The old people in this valley know the rulers of these nullahs, and they said that the Ruler had heard their prayers and had saved the little village."

"We had proof positive about the Regent of the Nullab on the opposite side of the valley," said the friend. "It is the hill near the visitors' camping ground, and its Deva, the Dev Ananda, came and disclosed himself to us."

I opened my eyes in incredulity.

"The whole village knows about it," affirmed the Postmaster. "It happened only a fortnight ago."

I could see that the memory of the event still thrilled and excited them. So I listened with wide-open ears.

"Please tell me all about it," I requested.

"Have you met a Brahmin young fellow in our village shop?" asked the Telegraphist.

"I was served by a nice-looking youth," I said, "but I am not sure if that is who you mean."

"Only a fortnight ago," began the Postmaster, "this decent boy suddenly seemed to lose his senses and go clean mad. He picked up a stone and threw it at a policeman. When they tried to catch him, he ran right up through the village and along this road. He finally was caught by two or three men who were near my Post Office, and then he became quite unconscious. My friend and I ran out, and, thinking he had a heart attack, tried first-aid on him but without avail. We then carried him back to the shop and called in the chief Police Officer who is a Hindu, well versed in *mantras*. He spoke in our presence some holy *slokams* and immediately a voice not his own, called out through the boy's mouth, 'He must be punished.' We said, 'Who are you?' The voice replied. 'I am Dev Ananda.' We asked him, 'Why are you worrying this young man?' He said, 'He has done wrong. This morning he killed a sheep when I was performing Sandhya (morning worship), and I cannot have such things happening in my jurisdiction. I will not leave him unless he does proper penance,' We then were very frightened, because we had all partaken of that sheep, and we thought punishment would come upon us all."

"Yes," said the Telegraphist, "I said, 'Forgive him, Sir. He did not kill the sheep. It was a Muhammadan who killed it. He only gave the order'—for we all knew about the affair. 'Yes,' said the voice, 'but he gave the order, and therefore he was responsible for it. It must be considered as his act.' We then pleaded with the controlling spirit to allow us to do the penance for the matter and to forgive this young fellow. So the voice ended: 'Well, I will forgive him for this time, if he promises never to interfere with my Sandhya by any such acts in future. He must never eat meat on the eighth day of the bright fortnight.' We all said, 'We promise fully and faithfully.' The voice replied, 'Well, then, I will leave him now.' Immediately the boy stood up, back again in his own full consciousness. We asked him what he had been doing, but he had not been aware of anything that had happened from the moment when he had suddenly felt impelled to hit out at those around him. The next day, the whole Hindu population of the village and even some of our Muhammadan neighbours walked together in procession with arati and offerings, to the foot of the nullah, and there did Puja to the presiding Deva, and since then we have been feeling much happier in the valley, and nothing has happened to our friend. He has been in quite normal health. But we have all received a lesson which we shall never forget, and we know that the Deva is there and is aware of our actions."

Pointing towards the entrance to the valley where there are grotesque shapes at the top of these strange, unfriendly mountains that looked more than ever unfriendly in that heavy light, "Have you noticed those figures up there?" he asked. "They were a great Chief and his wife who aspired to reach the summit of the mountain, and when they had done so, were so entranced by its beauty and its holiness that they prayed they might never leave it. At once they were turned into stone, and there they are and there they will remain for all time."

In the further hills where the mountains range between Central Asia and Kashmere, there are also dwellers in the hills, watchers and guardians, picking out those who may be allowed to pass into Tibet, guarding the holy shrines, helping their chosen travellers; and at a centre magnetised by the devoted feet of pilgrims travelling thence once a year for the past four thousand years in known history and tradition, there at Amarnath are great, tall, white figures ever guarding the venerated ice lingam sacred to Mahadev—figures which can only be compared to a blend of radiant icicles, ivory candles, pure white lilies, beings neither of flesh nor blood, but of colour, and scintillation and purity — the watchers and worshippers. One day they will give tangible demonstration of their personality, as did Dev Anandam a fortnight before I came to Soonamarg.

The Comic Genius of the Silver Screen

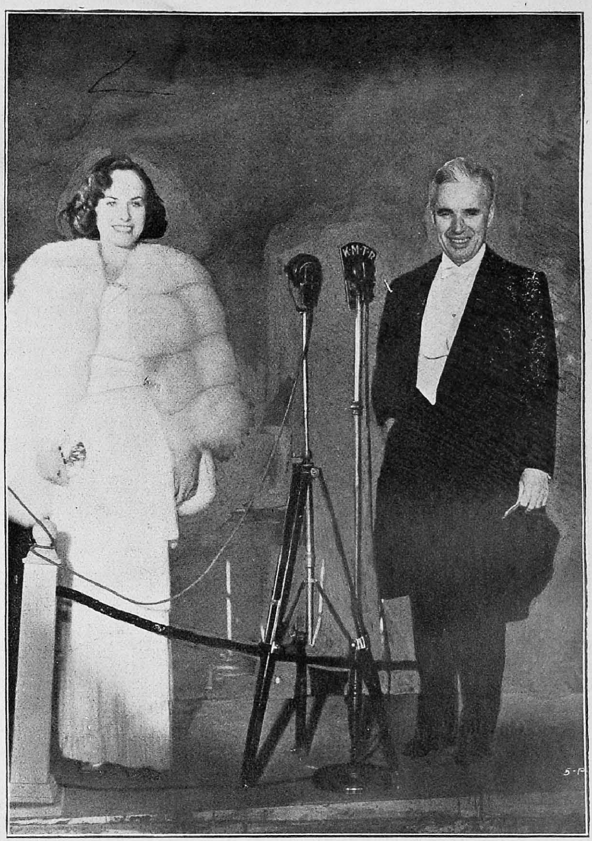
By Prof. V. N. BHUSHAN.

CHARLIE Chaplain is an international figure—loved and admired by millions of men, women and children. And if one may safely predict from one's knowledge of history Chaplain's name will certainly outlast that of many of his contemporaries distinguished in different fields of activity. His work is not one-fourth as much as that of others in the same sphere. Yet the fame that he has achieved is more substantial than the twinkling lustre of other *stars.* It is so because Chaplain's work has a deep and abiding significance. He has created a vogue for himself--not so much by his queer gaberdine and pathetic figure, as by his inborn gift for evoking laughter. And the laughter be produces in us is not the momentary moth-wing of a minute, but the laughter that stirs our very depths, that sets our minds thinking—the laughter that comrades pathos ever and always.

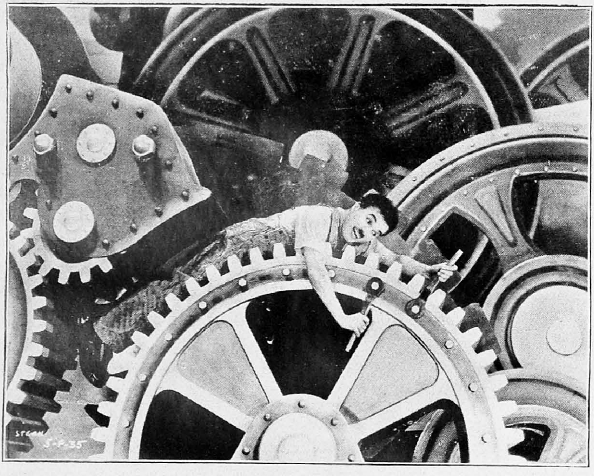
Stage and Screen comedians there have been in the past, and there are at present, but none can be compared with Chaplain, the prince of comic acting. He is far above the greatest in the field—and dwells apart. He is as supreme and unrivalled in his own sphere as, for instance, George Arliss and Paul Muni are in the field of character-improvisation. One secret of Chaplain's greatness is his universal appeal. Other actors touch—often superficially, and deeply at times—one or the other aspects of life. We applaud them for the time being, and admire them for a little longer. Chaplain, on the other hand, through his universal medium of laughter, touches the humanity in one and all of us, and captures our very hearts. That is why we love him—something more than mere admiration or appreciation.

Millions of souls all the world over have been rocked to laughter by the fun and frolic of this consummate actor. The language difficulty does not arise in the enjoyment of his pictures, for he speaks no language. In spite of the advent of the talkie Chaplain has stuck to his Movie—to the alphabet of silence that knows no distinctions of country, creed or community. And themes that he chooses are not special to any particular land or society. They belong to human nature in general and add greatly to his universal appeal.

Chaplain was not born with a silver spoon in his mouth, but with the genius for acting in his veins. He was born in England about fifty years ago—of parents, both of whom were professional stage



Charlie Chaplin with his leading lady Paulette Goddard
at premiere of "Modern Times" in Hollywood.



Charlie Chaplin in his silent film "Modern Times".

employees. Chaplain's father was not a man of much talent, but he made quite a good name by playing successfully the role of the clown. It is said that at times he used to play other roles also, and at one time, was noted for his singing voice and knowledge of music. Chaplain's mother was for a considerable time a *prima donna* in Gilbert and Sullivan's Operattas. With this theatrical heritage to his credit, it is not at all surprising that young Charlie turned his attention to the stage. His first public appearance was as a member of the "Eight Lancashire Lads"—an enthusiastic group of amateur dancers. On a subsequent occasion he scored a great success as 'Billie', the page-boy in *Sherlock Holmes*. At this time Chaplain was well-known as a great mimic and impersonator. His striking talent and genial disposition soon made him the centre of attraction in the fraternity of entertainment clubs.

In 1910 Chaplain went to the United States of America as the leading comedian of the Fred Karno Comedy Company. It was during this itenary that he received an offer from the Keystone Film Company of New York, for a contract of one year at one-hundred and fifty dollars a week. Chaplain accepted the job, and thus embarked upon a strange new experience which was to affect profoundly his future career. It was not long before Chaplain faced the Movie Camera and made his first comedy. The picture was "a hit, a hit, a palpable hit", and Chaplain swam into the Kinematic firmament as a star of the first magnitude. The producers as well as the public discovered in Chaplain a comedian with possibilities, an artist of exceptional abilities. He heralded a new vision into the world of screen comedy—elevating drollery and buffonery to the high level of a subtle and significant art.

In 1912 Chaplain acquired his own Studio and ran it for some time. In 1919 he co-operated with Douglas Fairbanks, Mary Pickford and W. W. Griffith in establishing the United Artistes' Corporation with the primary object of maintaining "independance in motion picture industry". The concern has produced a series of internationally known successes.

In spite of his long screen-career, Chaplain has not given us many pictures. The fact seems to be that he is slow, calculating—never anxious to rush forward. In these days of speed and headway, it is surprising to know that he spent two long years in producing the picture—'Modern Times'. Not that Chaplain is dull to grasp and slow to execute. On the contrary, he is, as one of his admirers says, "a man of fierce vitality which is in itself a sign of genius". Being a man of ideas and idealistic temperament, always pursuing the elusive trail of perfection, he does not derive satisfaction from his work unless he does it with a sense of thoroughness. Never at any time having any reserves, he spends the last ounce of whatever is best in him on whatever he does. That is to say, he is deliberately cautious and

calculating in his work—the artistic work—the expression and execution of which is, in the words of Dante, "always a matter of laborious toil".

Some of the outstanding and deservedly popular pictures of Chaplain are—*Shoulder Arms, Pay Day, The Kid, The Circus, The Gold Rush, City Lights* and *Modern Times.* In all these, what is striking is not so much the story, not characterization so much as the significance behind the pictures, and the artistry that exalted them to the level of pure *Comedie Lumaine.* Several of the ordinary Theatre-goers may not be aware of this; they are, perhaps, moved to bursts of laughter by his funny bowler hat, his ricketey cane, his baggy trousers and his shoes which would do credit to Puss in the fable. But the intellectually and imaginatively alive public at least must not have failed to understand the genius of Chaplain, the genius that has imparted universality and eternity to his pictures. Chaplain is first and foremost an artist, a gifted artist with inborn talents, full of ideas, imagination and humanity. Chaplain has gained reputation as a master producer, director and actor from whom even the best film experts have to learn many things. But it is as an actor that he won the hearts of millions and it is as such that he will long be remembered. And what an actor! Without himself laughing he makes others roar with laughter; without himself uttering one word he makes his language and actions ring in our ears. The Talkies have come and yet the Movie of Chaplain stays! It is wonderful—the manner in which he produces a hypnotic effect on his audiences through mere gestures—gestures symbolic of the situations in which he places or finds himself, symbolic of the ideas surging in his mind, symbolic of the pulsating heart within him. The Hindu Dramaturgy boasts of the importance it attaches to gestures. The hands, the face, the feet, in fact all the limbs of the body have their part to play in the expression of an actor. Here is Chaplain exemplyfying that ideal. Every twist of his fingers, every turn of his feet, every expression of his face, every glance of his eyes—are all integral items of his dramatic personality and contribute to the atmosphere that he seeks to create. Philosophers hold that silence is often the foster-mother of great things. Here we have a supreme artist making marvellous use of silence, and out of silence producing cataracts of humour and humanity,—and all through the pregnant language of gestures!

Some critics have pointed out that Chaplain has "revived the best features of the Moliere tradition." The statement is only partially true. Chaplain has only a touch of Moliere, but is not wholly of that brand. Chaplain's comic effects are more human and pathetic than those of Moliere; Chaplain's laughter is essentially human; and his humour, like that of Elia, is wedded to pathos. The characters that he impersonates have "a touch of that dark troubled quality" which is characteristic of

all idealistic persons born to fall upon the thorns of life and bleed. When Chaplain makes us laugh at the ways and manners of a tramp, at his rises and falls, at his tragedies and comedies, he also makes us sympathise with the pathos that lurks behind them all. In fact, what Chaplain tries to bring out in his pictures is the little ironies of life—coated with the sugar and spice of comedy. As an artist he is not interested in people individually, but with humanity as a whole; and as an artist—the mysterious cenematograph of life amuses, or rather, disturbs him. Thus disturbed, he feels the iron enter his very soul. But he is an artist, and therefore, bides his tears in smiles, and quaffs the anodyne of humour as the solvent of the painful problem. It is in this mixing up of tragedy with comedy, of tears with smiles, of pathos with humour,—that Chaplain's artistry consists.

In this Chaplain is in the company of the best English humourists—Shakespeare, Dickens, Lamb. The humour may be uproarious at times outrageous at other times, but it is wholly human, and always flushed with pity, love and sympathy. Chaplain's humour is pure humour—neither serious and sombre nor mean and malicious. His humour is synonymous with compassionate laughter—laughter that makes us turn inward upon our very selves. It serves as a solvent for all our pomposity, over-seriousness and disproportionate extremism. Has not George Meredith told us that the luminous and watchful Comic Spirit with its sage's brows and slim feasting smile, swoops down upon us—whenever we wax out of proportion, are overblown, affected, pretentious, whenever we offend sound reason and fair justice, and whenever we are false in humility, or ruined with conceit, individually or colletively? The oblique light of the Comic Spirit is always followed by volleys of silver laughter—laughter that is a cathartic and a corrective.

That is the true spirit of comedy, and that is how Chaplain makes use of it in his pictures. And that is why we need not feel diffident in placing him alongside of the world's great masters of comedy and humour.

Take, for example, the characters that Chaplain impersonates. Divest them of their superficialities, and you will find that underneath all the characters there is Man—the down-trodden and the oppressed Man of the hard world of realities. Thus Chaplain the actor has come to be regarded as the symbol of the supremely moving study of "Man the wistful, Man the wanderer, Man in bewildered rebellion against the whole silly scheme of things, Man in the character of 'He who gets slapped'." In sport, whether it is Man as the short of Mammon as in *City Lights* or Man as the victim of a machine age as in *Modern Times* —Chaplain represents the pathetic Everyman, of the pilgrim-spirit of Everyman that waifs and wanders and searches wistuflly for something that the world cannot offer. But Chaplain's is not a defeatist mentality or a philosophy of despair. He is full of human instincts.

And so, even though he represents man as a tramp and as a tool in the hands of invisible forces, he yet shows the world that "the poor, homeless, ragged vagabond need not despair as Providence is watching him", that the Sun who "catches the Sultan's turret in a noose of Light", does not refuse to irradiate the humblest hovel.

Thus Chaplain in his art uses irony as a weapon against adversity, humour as an instrument for the expression of the tragi-comedy of life, optimism as the keynote of existence, and comedy itself as an exhilarating philosophy of life. Mr. Ernest Raymond in his essay on *England's Humour and Europe's wit* has paid a most handsome tribute to the genius of Chaplain. "We have in our midst," writes he, "a comic genius of such an order as has seldom appeared, and his name is Charles Chaplain. The whole critical world, now that its more penetrating leaders have declared their faith and blown their snobbery away, has accepted this fact ....The truth of the matter is that Chaplain, as a creative comic genius, sits in the company of Moliere, Cervantes, Rabelais, Dickens, and Gogol. All these men have created figures truer than life itself, and Chaplain is the only living artist who has, as far as I can see, *for certain* created another world-figure which can, without being dwarfed, link one arm in Mr. Micawber's and the other in Sir John Falstaff's; and that figure is the loveable little tramp we know as Charlie Chaplain.........The large implications of his figure will emerge, I trust, when we discuss the philosophy, the religion, and the wistful mysticism that lie behind all our national humour. Let me remind you here that it was an Englishman who created this profoundly significant little vagrant; and that none but an Englishman would have done it.........Charlie Chaplain is a little vessel into which are distilled the essences of English humour."

No wonder that Chaplain, the humourist of humanity, the comedian of life and the artist *par excellence*, is one of the most beloved figures of the world—receiving its admiration, affection and esteem.

Problems of Village Uplift

By Dr. A. R. PODUVAL

ABOUT two years ago, when a meeting of the staff of the local Panchayats was called up to obtain their suggestions regarding rural reconstruction, some of the ideas and observations that were made on that occasion were so remarkable that they are worth recording. One of the gentlemen got up and said that village reconstruction was a purely Government affair and the rural population had very little to do with it. Another gentleman, after having prefaced his speech with certain 'rural' invectives not complimentary to the Government, said that every village must have a centre, for which land had to be acquired by the Government to start with. He said that village reconstruction was essentially "a reconstruction of the village" by the villager for the sake of the villagers. Hence, he proceeded to say, a building had to be erected which, of course, the Government could do very easily, with a recreation ground, wells, tanks, and other useful accessories, the construction of which could be entrusted to the Engineering Department under the Government. Other amenities of village life, such as Reading Rooms, Libraries etc. which cannot in the present state of economic difficulties be started by the villagers, he thought should be shouldered by the Government. As a matter of fact, when the lecture was finished it appeared that the share of the villager in village reconstruction was to saunter of an evening in the well-laid out grounds with his wife and children, sit on the parapet wall of the tank and crack jokes and then go home to dress up for the evening entertainmant that was to be held in the building under Government patronage.

That there should be elected representatives of the village Panchayats who hold such extra-ordinary ideas on this subject to-day is not surprising. What has happened is this. The old representative village life gradually gave out, either due to sterility or more probably due to the pressure of authoritative bodies, who saw to the weakening of all kinds of power, whether in village or in town, in order to thoroughly and completely establish the authority of the ruling body everywhere. Thus, in old times, when a well had to be dug, a tank constructed, a temple consecrated, a canal to be deepened or a space had to be cleared, the chief people in the village joined together and got the work done by their own efforts and on their own responsibility. Some people who had money subscribed money: others who did not have cash gave its substitute in the form of free labour. All the works being a village concern, all the villagers took part in the work. There were no contractors nor contract system, and so the best materials that could

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be assembled were got together and the best workmanship. One can see even to-day, almost in every village, remnants of these works some in a very good state of preservation, others crumbling down in sheer animal neglect after having withstood the wear and tear of a number of years.

With the slow but steady elimination of the power of the villages, and the gradual substitution of authority in its place, the villagers found that their interference in village life very often brought them into unpleasant contact with departmental authorities, who like all minions in office made it a point to ignore local preferences and put their foot down with no mild show of authority. If the villager, for instance, as was his wont, tried to remove sand and debris that was gradually raising the bed of a stream, the authority interfered. The villager wanted permission to build a village tank, to set apart a piece of ground for cattle-grazing, and for so many other things which in ancient days formed part of the spontaneous activities of village life. On these, authority, depression, red-tape, and a gradually rising poverty working in a vicious circle, imposed restrictions which were found too difficult to overcome. The villager found a sort of lesser imperialism, so to say, practically tending to bolt out his rights. Gradually, repeated contacts with non-rural officials and a consciousness that the villager is neither the authority nor the master in his own domain, resulted in the shattering of the last vestiges of any delusion that the villager might have had that he was either an authority in or a representative of the time honoured system of village life, the result was that village temples decayed ; tanks and wells remained unrepaired and partly in ruins ; irrigation canals became silted up and overgrown with weeds ; and a good many of the remnants of the old village life disintegrated. There are still typical villages in the country presenting dead replicas of a once living and vigorous village activity. The house of the headman of the village, the jenmi is there, but he has either fallen on evil days, or has become officialised. The village representatives are no better ; they have had a very indifferent time. The tradesmen's dwellings are there ; but economic distress have made them forsake their homes, and seek a livelihood elsewhere.

Then, borne on the wings of the morning comes from the West the announcement that rural reconstruction has been recently discovered to afford that fashionable intellectual relaxation for jaded politicians who have got muddled up with the important international problems Politicians in this country are persuaded to take up the "refresher course", and soon it is made out that there has been of late a growing consciousness on the part both of Governments and the people that the peasant has not received the attention that his importance in the national and economic life of the country demands. Long before this, English country lanes had ceased to smell of human

excreta; and Clovelly in Devonshire, Hove in Sussex, Sitting Bourne in Kent, Stratford-on-Avon in Warwickshire, Bettevsy-cosel in North Wales, and several other pretty little villages had become famous among tourists as places to visit or stay for their beauty and health-giving qualities. In the West, rural reconstruction has been chiefly an attempt to make permanent 'Sweet Auburns' and keep them as such. It pays them to maintain the strictly rural atmosphere and take every precaution against urbanisation.

In India, on the other hand, one can easily get a year's manure from the sweepings of the lanes of a village. This dissolves and disintegrates in the monsoon and with the storm water penetrates into nearly all sources of water-supply, giving rise to epidemics of various kinds. The villager, on the brink of half-starvation, is chronically injected. Poor nutrition, steady depression, and chronic infection make him apathetic and hardly alive to the realities of the world situation. A certain amount of "mob education," said to be the best panacea for all human problems, first serves to infect the villagers with the presence of a certain body of individuals who adventure into the region of village politics with nearly all the viciousness that they see exhibited by the more expansive type in cities. The West has elections; so have we everywhere. In village elections, we find the legalised sins of civilized man employed with the subtleties of brain more astute than that of the ordinary villager. The quasi-educated adventurers that one finds in every village to-day (I am more familiar with Kerala) contrive to get all the places in village elections by measures which employ all the elemental passions of the horde, and all the serpentine subtleties that have filtered into the villages from urban areas.

The latest development in this line is the Modern Village Panchayat. It may be said that this institution, functionally and psychologically, is very different from the old village Panchayat. The latter was a genuine rural institution, the village was its womb as well as its tomb. The modern Panchayat is an institution *sui generis*. It has an unpleasantly patronising attitude towards the village and the villager, and strives to put on the airs of official-dom. But the officials are not prepared to accept the gang. If, indeed, I were to go into all the subtleties manouevred in a modern Panchayat, I am afraid I would be leaving the villager in the lurch. One thing is obvious. There may be an occasional saint or a philanthropist, or at least one that means no harm to others in the Panchayat. But taken in mass, the villager rather seems to shun the 'body' as a whole. The Panchayat, in its present psychology, cannot deliver the goods. It is too "imperialistic" in its tone and attitude. It thinks too much of itself to have much time to think of the villages.

So far then, we have not made much progress in converting parts of our country into Clovelly. It is very doubtful whether our people

have grown a sanitary conscience even in towns, leave the villages alone. I do not think that it is at all possible to do any lasting rural reconstruction work until we raise the standard of health of the villages. That seems to me the rational first step in the process. Very probably, making bore-hole latrines would do more good than selling Leghorn's eggs. But when I suggested that health in the village was the first preliminary to wealth, certain politicians, trained in law, raised their eyebrows in critical scepticism. And yet, I have the honour to tell them that the " League of Nations," which represents the august body of opinion from which most modern politicians derive their inspiration, holds to that idea.*

This is the first tune in the song of rural reconstruction, and it will be found that it forms the refrain too.

And yet some of us, starting with the best of intentions, have been led to extravagances in Health matters ; and we have now found out our fault and come to the conclusion, in some places at any rate, that Health is not of so great value as to make us spend so much money on it !! Whether this is economy or philosophy or a combination of both, I do not know. The latest survey of the village will show that in many parts it still stinks.

Leaving pious propaganda aside, a sincere worker in Rural Reconstruction schemes, need hardly chance to discover any mystery in the immediate needs of the villages. First he wants water, plenty of it, and of good quality. On it depends not only his health but the health of his cattle and of his agriculture. Humanity learnt to think, and to reach to very lofty regions of speculative thought long before big roads, big buildings, big buses and electricity came into the land. It could not have lived long without pure water. Modern civilization was not built by people who ate modern food. I rather think that if our ancestors had lived the life we are living to-day, we would very probably not have been alive to tell the story.

Then the villager wants wholesome food, simple but strenghening. Personally I do not believe in the efficacy of a civilization that cannot provide the physiological necessities of existence to the human family : for without any civilization most animals contrive to procure them. Man by virtue of his birth is eligible for good food as much as for good air and water and God's sunshine. These comprise the lowest levels upon which life is possible in any organism. Then he wants shelter ; something better than a cave or a cave-like thing. On these fundamantals, we may add gradually the amenities of life — those things that make a human life somewhat different from that of animal.

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* Extract from the " Report of the Inter-Governmental Conference of Far-Eastern countries on Rural Hygiene held in Java, 1937.

When people begin to think in terms of cement and machine and broad roads and luxury shops and cinemas in rural areas before making provision for the needs of the sheer animal in man, they are trying to foist a tin-foil urban civilization on rural areas. This is preposterous.

Rural reconstruction is hardly a fit hobby for one who cannot identify himself with the villager. When one begins to work oneself up into a philosophy which teaches one that lesser men are the greater men's ligitimate prey, he would be a benefactor to mankind if he would leave rural reconstruction severely alone.

Greetings to Gandhiji.

May your long penance and self-sacrifice bring down the Ganga of divine Love, to flow among the bruised and dying mankind and quicken the seedlings of Immortal Beauty, Power and Truth !

May you become more and more in the years to be a growing Embodiment of the eternal in man, testifying to the undying Soul of India, a great mother of the world !

This is my *anjali* and *prarthana* on behalf of the many Unknown Warriors in the great army of ahimsa and truth under the leadership of you, lovingly called "Bapu" by a few but universally hailed as "Mahatma".

—*K. T. Krishnaswamy.*

Kakkasseri Bhattathiri

BY M. S. KRISHNA AYYAR

KAKKASSERI Bhattathiri was a great Vedantin, scholar and mystic poet who realised the Supreme. Much is not known about the time of his birth, his life and the details of his literary productions. We get a glimpse of his life mostly through tradition and a little through literary documents. He is still remembered as one who, when but twelve years old, crossed swords with the famous Scholar, poet and dialectician, Uddanda Sastri of the Chola country in what is known as *Pattathanom*, a conference of scholars held annually under the auspices of the Zamorin Maharaja in the Calicut Tali temple in olden times, when discussions and contests on 108 subjects were conducted and 108 *Panakizhis* (Money purses) were distributed to the respective winners. There was also a 109th purse going to the oldesf man in the assembly.

II

The story of the birth of Bhattathiri is very extraordinary and it offers ostensible proof of the efficacy of *Mantras* and the strength and sanctity of *Tapas* (prayer and meditation, of the truly great Brahmins). The *Pattathanom* had become so famous that it attracted scholars from outside Kerala, among whom was Uddanda Sastri. He came to Calicut and participated in the conference. Hitherto the money purses offered to the winners were uniformly claimed and exclusively secured by the Nambudiri scholars of Kerala. Now Uddanda challenged, that by dint of profundity of learning and Brahminical purity the money presents ought to go to him. He demonstrated his claim by winning in all the contests in the several branches of learning as against all the scholars assembled there. In this manner he was having all the prizes year by year.

III

Quite apart from the loss of money, this caused great consternation and disappointment among the Kerala Brahmins, and feeling that their honour was at stake, they looked about ways of putting an end to this state of thing. The Zamorin Maharaja, one who was also interested in the welfare of Kerala Brahmins, joined their deliberations and they came to the conclusion that a scholar capable of eclipsing the Sastri in contest should be begotten. Their idea was that they could, by their *Mantrasakthi,* bring forth into the world a boy of the required intellectual calibre. The Nambudiris, therefore, caused enquires to be made as to whether any lady belonging to their community was showing signs of pregnancy and pitched upon the mother of

the subject of our story. They gathered together in the house of that lady, great *Tapasvins* and *mantrasiddas*, all Nambudiris, and began to set about their work. They resolved in the first instance to sanctify by their incantations the rice that was to be cooked for the pregnant lady's food. Each grain was utilised only after the *Aksharalaksha* (chanting each letter a hundred thousand times) of the *Balamantra* was chanted on it. Further, butter and ghee, sanctified by appropriate mantras, were administered and *Pumsavana* (a ceremony performed on a woman perceiving the first signs of a living conception, with a view to the birth of a son) and other ordained rites were performed in due time. As a result of these efforts a child of superhuman powers and penetrating intellect, who later came to be known as Kakkasseri Bhattathiri, was born.

IV

Except for some remarkable anecdotes, next to nothing is known of his childhood. When he was only three his father died. The sradha of the child's father was being performed daily for a year after death, as is incumbent among Nambudiris, and the *Pinda* (oblations) used to be placed outside the house for the crows to eat. The child's favourite game was to distinguish the crows, one from the other, a feat which is impossible even for the most intelligent of human beings to perform. Being a little child, the mother used to carry him when going out to place the *Pinda*, when he oftentimes called out to the mother :— "Mother ! one crow that was here yesterday is missing this day". At first, people who heard it regarded it as one of the many foolish mumblings of children, but as the child began to give the identification marks of each of the crows it became clear that what the child was pointing out was true. Some opine that it is because of this remarkable capacity which even grown up people cannot acquire of distinguishing one crow from another that our hero earned the appellation "Kakkasseri". ("Kakka" means crow in Malayalam).

V

Bhattathiri's birth-place and time of life were till recently mere matters of speculation, but now these have been brought within a much narrower compass and within certain circumscribed limits, though not entirely devoid of doubt. His birth-place is said to be one of the following three places--a place called Kakkasseri in Brahmakulam Amsam in Ponnani Taluk, Thiruvegapura, or a village called Kakkasseri near Chalisseri. He lived in the 7th century of the Quilon Era (1425—1525 A. C.). From the amount of learning he displayed it might be presumed that careful attention should have been paid to his early education. To defeat a great scholar like Uddanda in varied discussions before he was barely twelve years old, he should certainly have become an accomplished scholar even at such an early age. He was initiated into the learning of the three R's while he was three years

of age. He was taken through a strict and regular course of studies under one Narayana Acharya. These few facts and the fact that he had the encouragement of the then ruling Zamorin himself in his studies are gathered from a passage in his dramatic work in Sanskrit called "Vasumathimanavikramam". The Samskaras as Upanayana, Samavarthana etc. unavoidable to a Brahmin were all performed and side by side with them the necessary Vedic instructions were also given and the boy was got ready for accomplishing his life purpose.

VI

When the boy made his first appearance in the assembly (*Pattathanom*) all wondered if it was that beardless youth that was going to defeat Uddanda, the lion among scholars. As though to dispel their doubts, the boy recited a challenging verse proclaiming with great self-confidence that he was certainly not the recipient of any high sounding titles from the king and admitting his young age but claiming such a torrential flow of words by mouth as would stand comparison with the dashing waves of the Milky Ocean of the Lord churned with Mount Mandhara as the churning stick.

न छत्रं न तुरङ्गमो, न वदतां वृन्दानि नो वन्दिनो
न श्मश्रूणि, न फालपट्टतिलकं, न ह्यम्बराडम्बरम् ।
अस्त्यस्माकममन्दमन्दरगिरि प्राच्चूतदुग्धोदधि-
प्रोद्भद्वीचिपरम्परापरिणता वाणी तु नाणीयसी ॥

The boy did not stop with this proud invitation for fight, but proceeded in a still more egotistic vein and demonstrated that he was a fit and proper adversary to the haughty Sastri.

VII

When the boy entered the assembly hall the Zamorin Maharaja and Uddanda Sastri were there. The Sastri wondering if defeating this puny creature in literary contest was all that he had to do and with a feeling that he could make short work of the discussion contemptuously remarked :— "आकारो ह्रस्वः" (stature of the boy is short).
Boy :— नहि नहि ; अकारो ह्रस्वः ; आकारो दीर्घः A', the 1st letter of the Sanskrit alphabet is short ; Aa, second letter is long.

The ingenuity of the answer lies in the pun employed by the boy and the consequent discomfiture of the Sastri. Sastri used the word 'akara' in the sense of size. The boy turned the tables on him by taking it to mean the second letter of the alphabet, which is certainly a long letter. It will be noticed what a ready retort the boy's was. The ludicrousness of the situation that the great Sastri committed a seemingly terrible mistake with regard to the very first letter has also to be noted.

VIII

Then began the passage at arms one twitting the other with his proficiency in the various departments of learning. Sastry had a parrot

specially trained to carry on discussion on his behalf and it was his custom to engage himself in discussion only after the parrot was defeated and silenced. Bhattathiri had known this beforehand and so had invented a trap for the Sastri. As soon as the Sastri in his usual manner put forward his parrot, Bhattathtri threw forth a live-cat blurting out: – "This pussy, for that parrot" and the parrot for fear of its life could not utter a single syllable.

Rebuffs coming one after the other, Sastri himself now began.

Sastri: कस्त्वं ? (Who are you).

Bhatta: अहं परमशिवः (I am Lord Siva).

Sastri: कः परमशिवः ? (Who is Lord Siva ?).

Bhatta: परमशिवोऽहं (I alone am Lord Siva).

Sastri: तर्हि कोऽहं (If so who am I ?)

Bhatta: त्वं चण्डालः (You are a Chandala).

Sastri: तथा चेद् त्वं कः ? (If so who are you ?).

Bhatta: अहं परमशिवः (I am myself Lord Siva).

Contradiction for its own sake seems to have been the primary device adopted. It would even appear as though Bhattathiri was taking sufficient precaution as not to land himself in unfathomable or unfamiliar fields of intellectual disquisition. However that may be, it does not seem to be that Bhattathiri defeated Sastri in any philosophic or literary contest, but did so only by employing obstructive, though opportune and timely tactics. The precocious youth probably had found that this was the only method available to him for withstanding his opponent's dashing eloquence.

After several such passage-at-arms, the Zomorin Maharaja, after consultations with other learned men present, commanded :- "We would mark out that person as the winner in the contest, who gives the largest number of meanings to the first Sloka in Kalidasa's *Raghuvamsa.*"

Both the competitors agreed. Sastri gave out four meanings in his own fascinating and inimitable way. The spectators now despaired of Bhattathiri winning the contest. But to the surprise of all he gave ten meanings and all of them more alluring and in better style than those of his adversary. With this, not only the whole audience acclaimed Bhattathiri as the winner, but Sastri too apparently acknowledging his own defeat and prasing his erstwhile opponent, but really to see if at least here he would not meet with a contradiction, observed:- तव माता पतिव्रता "(You are indeed born of a chaste and virtuous mother)"

Bhatta: नहि नहि (No! No!)

This astounding contradiction created a stir in the minds of the Brahmans assembled, for according to the Dharmasastras, a Brahman

accusing his mother of unchastity becomes degraded and has, therefore, to be excommunicated. Further, these rules were nowhere more strictly adhered to and observed than among Nambudiris. Anyhow Bhattathri could not stop with his blatant assertion and to justify it he thought deeply for a time and then quoted the 5th Rik, Varga 25, Chapter 3, Ashtaka 8 of the Rig Veda a mantra recited during the marriage ritual, which means that Soma, Gandharva and Agni have the right to the company of the bride on the first, second, and third night respectively, after marriage and that the bridgroom becomes entitled to her only on the fourth.

सोमः प्रथमो विविदे गन्धर्वो विविद उत्तरः ।
तृतीयो अग्निष्टे पतिस्तुरीयास्ते मनुष्णजाः ॥

By quoting this authority that Bhattathiri gained the upper hand even here.

Bhattathiri duly secured the 108 purses set apart for learned men. The 109 th purse was claimed by Uddanda as being the oldest among those present. Bhattathiri argued that the oldest did not mean oldest in physical age, but that it denoted oldest in wisdom and knowledge *(Jnanavridhathvam)* and that if physical age was the criterion the purse ought to go to his servant accompanying him being older in age than anyone present there. The irrefutability of this argument secured the last purse too for Bhattathiri. Thus cornering Uddanda everywhere, Bhattathiri saved the honour of the Nambudiris and established their monopoly right to receive the perquisites attached to the *Pattathanom*.

IX

After the conference Bhattathiri complained about the Nambudiris' want of forethought. As already stated each grain of the rice that was given to Bhattathiri's mother was impregnated with the chanting each letter of the Balamantra, a hundred thousand times. Bhattathiri said that the *Panchakshara* was not properly chanted along with that Mantra and that was why he took some time to quote his authority during his last duel with the Sastri. He had, he said, to dive deep into the four Vedas, before he hit at the right passage. He further warned the Nambudiris that they would have to feel sorry later for their want of forethought and this warning also proved true in course of time.

X

The court poets of the Zamorin Raja, known as *Pathinettarakavis* (literally eighteen and a half) of whom Bhattathiri was one, must have contributed several dramatic works. But the only two that are now extant are the "*Mallikamarutha*" of Uddanda and the "*Vasumathivijaya*" of our hero. It is unfortunate that this beautiful and sublime work of the latter has not only not as yet been printed, but that even

hand-written copies of it are not easily available. Except for a few other stray verses nothing of the works of this great poet is as yet known or heard of.

XI

After taking the premier rank among the Court poets of the Zamorin, Bhattathiri continued to reside at Calicut and in his own Illom in turns. The date of his venerable mother's death is not known, but it is surmised that it happened only after the son came into prominence, It is doubtful if he ever remained in his Illom after the first year of his mother's death. As he, the sole member of his Illom, remained unmarried, his family is believed to have become extinct with him.

XII

Battathiri became in course of time a great Vedantin and mystic. Though he was attending Pandits' conferences now and then, realising the oneness of the universe and seeing the Supreme Spirit in everything and everywhere, be became not only a complete renunciant but also disregarded all rules of ceremonial purity. Pollution by touch, so scrupulously observed by members of his community, had no meaning for him, and he had no scruple or objection to take food at the hands of any one high or low. His disregard of the social conventions evoked criticism from among members of his own community.

Once as the day was advancing into the night some of the Nambudiris mocked at the Bhattathiri not performing his Sandhya (evening prayers). He cited the passage from the Upanishds:

हृदाकाशे चिदादित्यस्सदा भाति निरन्तरं ।
उदयास्तमयौ नस्तः कथं सन्ध्यामुपास्महे ॥

[In the sky of the soul shines always the Supreme Spirit in the form of the Sun; that Sun has no rising and no setting: how then can Sandhya be performed?]. The scoffers were thus silenced.

As time rolled on, Bhattathiri ceased to perform even the *Sradha* ceremony of his father. Members of his community on coming to know this questioned:— "Instead of setting an example to others, you, a learned man, are yourself not performing these primary rituals enjoined on a Brahmin. Is it not improper?" Bhattathiri replied in verse which beautifully expresses the truth that rituals have no value for one who has realised the Supreme!

मृता मोहमयी माता जातो ज्ञानमयः सुतः ।
शावसूतकसंबन्धादनर्हः सर्वकर्मसु ॥

"Ignorance (*Ajnana*) which had assumed the form of the mother (*Mata*) is dead; But the Light (*Jnanam*) taking the form of the son has also been born: there is death pollution because of the passing away of the mother: there is birth pollution because of the coming into the

world of the son; and in between the two pollutions I am not entitled to perform any religious rites."

Who can deny that when ignorance is dispelled and eternal light emerges, there ceases to be any need for rituals?

Using thus the arguments of the true Vedantin that he was, he silenced those who raised objections to his unceremonial behaviour. He travelled in several parts of Kerala as, to all appearances, a stark mad fellow and seems to have had exhibited his wonderful powers in and around the place called Pazhur.

XIII

Bhattathiri was one of the trustees of the Chottanikkara Bhagavathi temple near Thrippunithura. He had also several *Sishyas* (disciples) in these places, of whom Kizuprath Bhattathiri and Pallipurath Bhattathiri were the chief ones. He seems to have left Kerala from this temple under extraordinary circumstances.

Beginning with the month of Dhanu (December–January) every year a special *Puja* used to be performed by the Nambudiris. Once Battathiri entered the temple and joinded the crowd of devotees. This behaviour on the part of one who had set at naught the caste rules and observances was not welcomed by the orthodox Nambudiris, but no one had the courage to enter his protest, lest he might get a rebuff at the hands of Bhattathiri. At last it was jointly decided to request Bhattathiri himself as to how best they could be left undisturbed by his presence and secure immunity from his hetrodox intermingling. The decision was taken; but who was to make the request? The Nambudiris tried to prevail upon his two Sishyas. Pallipurath Bhattathiri before whom the point was first mooted, refused point blank. The other Sishya, reluctant at the beginning, but deciding later to sacrifice his personal interest for the good of the community asked his Guru :—

Sishya : आपदि किं करणीयम्? (What has to be done in times of danger).

Bhatta : स्मरणीयं चरणयुगलमम्बायाः (Fall at the mother's feet, that is the world mother, the Goddess).

Sishya : तत्स्मरणं किं कुरुते ? (What effect will that prayer have ?).

Bhatta : ब्रह्मादीनपि च किङ्करीकुरुते अतःपरं (It enslaves even Brahma and other Gods to you, that is, you can achieve all you desire).

Bhattathiri : अतः परं किमवशिष्टं (Does anything more remain ?)

Sishya : न किञ्चिदपि (Nothing more).

It was now clear that they could get rid of Bhattathiri by prayer to the Goddess. So, the Nambudiris began from next day onwards to conduct their Pujas in a still more orderly and strict fashion. On the fortyfirst day Bhattathiri went out of the temple of his own accord

and called for some drinking water. He drank the water and placing the water pot upside down (in Malabar a low caste man using the pot of a high caste person empties the water and places it upside down so that not even a drop may remain in it and cause pollution) and saying, "I am a *Brashta* (defiled man); the temple has to be purified by purificatory ceremonies", ran out and disappeared into a neighbouring cave which exists even to this day. The story goes that he never again had been seen anywhere in Kerala, though there is reason to believe that he reappeared somewhere in the eastern parts.

XIV

The disappearance of Bhattathiri caused a momentary glee in the minds of the Brahmans, but had other bad results. The family of the Sishya who acted as the representative of the Nambudiris became extinct; for had he not animadverted his Guru? That this extinction was possible was indicated in the last question put by Bhattathiri—"Does anything more remain?" But from the reply it may be gathered that the Sishya had also anticipated the result. He gifted away all his property to the Brahmans and the temple, and became a *Sarvasangaparityagi* (one having no attachment to anything in the world).

The incident is said to have had its bad effects on the temple too. Whenever astrologers were consulted, they opined that the Goddess was endlessly weeping for being instrumental in driving out of his birth place, a great *Jnanin* like the Bhattathiri. For, does not divine power subordinate itself to the powers of the true Brahmin?

XV

Bhattathiri thereafter travelled in eastern districts. One or two funny anecdotes of this period which exhibit his remarkable powers may here be noted. He was once squatting in a wayside inn. A group of persons belonging to different religions and castes and talking different languages had also assembled there and for some reason there was an exchange of hot words between two sections of them, which finally ended in blows. Both the parties went and complained before the local magistrate, who asked them if there was any independent witness. They said that a Malayalee who had nothing to do with the quarrel, was present. He was sent for, and questioned as to how the incident started and developed. He replied that the complainants were talking four or five different languages, all unknown to him, but that if it were necessary, he could repeat the very words and sounds of what each one said, in order. Bhattathiri repeated the conversation leading to the quarrel in the order in which it went on, and so the magistrate was able to understand the truth about the matter.

XVI

After Bhattathiri had left Kerala, Uddanda was anxious to somehow find out that superman. The clever Sastri pitched upon a device.

He composed three lines (*padas*) of a Sloka consisting of six questions. He arranged with the Pandya, Chola and other Kings to broadcast it, and to bring before that king who happens to come across, that person who completes the Sloka with the fourth line consisting of all the answers to the six questions propounded in the first three lines. The questions were :—

1. **कः खे चरति ?** (What is it that wanders in the air ?)
2. **का रम्या ?** (Who is it that is beautiful ?)
3. **किं जप्यं ?** What ought to be chanted ?
4. **किं न भूषणं** (What adds to personal charm ?)
5. **को वन्द्यः ?** (Who is to be saluted ?)
6. **कीदृशी लङ्का ?** How was Lanka ?

One person alone responded to the questions and he was produced before the king and Uddanda Sastri also was informed. That person was none else than Bhattathiri, and the two scholars recognised each other at once.

Bhattathiri's completion of the Sloka by the fourth line contained all the answers and it was as follows :—

वीरमर्कटकम्पिता

It will on analysis be found that this line has in it the answers to all the six questions and we will note them seriatim :—

1. **वी**—bird.
2. **रमा**—goodess Sri Bhagavathy.
3. **ऋक्**—Rigveda mantra.
4. **कटक**—Bracelet.
5. **पिता**—father.
6. **वीरमर्कटकम्पिता**—shaken by the fierce monkey.

It goes without saying that this difficult and curious questionaire was issued by Uddanda under the firm belief that none else except the superman Bhattathiri could satisfactorily answer the same.

XVII

Uddanda then took Bhattathiri to his own house, where a grand dinner was arranged. There were several dishes and Uddanda himself served them to the honoured guest. As Bhattathiri was having his meal, Sastri took leave of him for a minute or two to go out and come. But Sastri was a little late in coming back. Bhattathiri becoming impatient of waiting began to touch and use the contents of the dishes with his right hand itself which, of course, is polluted by eating. Sastri came in apologising for his being late. Bhattathiri explained that no harm had happened, except that everything for Sastri's meal had to be prepared afresh.

Sastri: "Pray, sir, why have you committed this impropriety when you had knowledge that I have not had my meal?

Bhattathiri: "If I had used my left hand, the dishes become unfit for use for either of us; the use of the right hand makes them fit and useful at least for me."

Sastri, who had known this rule had to admit defeat here too.

There are a few other instances of his contest with Sastri. Sastri complained to the Bhattathiri':— "Your father himself was not a scholar, how then could you claim any great distinction?' Bhattathiri in a sloka meaning:— 'A jar contains but a limited quantity of water. Kumbhasambhava (the man who was born out of the jar, that is, sage Agastya) could consume all the waters of the ocean. A good son by his exertions excels the father."

Sastri reprimanded: "You do not perform the *Agnihotra* (consecrating and maintaining the sacred fire) and V*yswadeva* (an offering to *Visvedevas* or to all the deities, made by presenting oblations to fire before meals), the two essential Brahminical rites; I do perform both."

Bhattathiri answered, again in verse.

इन्द्रनीले न रागोस्ति पद्मरागे न नीलिमा, ।
उभयं मयि भातीति हन्त गुञ्जा विजृम्भते ॥

["The Saphire has no red colour in it. The ruby has likewise neither the black. Alas! the Gunja (what is called *Kundumany* in Tamil and *Kunnikuri* in Malayalam) prides itself that both these colours shine on it."] This shows the depth and profundity of Bhattathiri's scholarship.

Sastri made another attempt to win the upper hand. Bhattathiri had composed a sloka while he was in the Brahmacharya Asrama. The sloka translated means: "The water of the lake, which is slightly warm during winter and a little cool during summer, whick makes the hairs of the person touching it stand on their ends and removes all his anguish, and which is beautiful because of the lotus bud, and slowly gurgling on account of the movements of the swans resemble the breasts of a young maiden."

Sastri contended: "This shows, you had as a Brahmacharin experience of sexual matters and for that reason you have become a *Patita* (a defiled man).

Bhattathiri: No, No, I came to employ the figure of speech only because I remembered my mother suckling me.

As an extraordinary dialectician, poet and great Vedantin, Bhattathiri had verily no second.

The Writing on the Wall

By R. RAMAKRISHNAN, M. A., L. T.

SUGRIVA Sastry was till then the Village Uplift Officer in the palm-girt village of Barthapur. He had a rather hot time there. His work was vast and brought him frequently into conflict with vested interests of all kinds. The appointment of Village Uplift Officer was made by the new Ministry in order to speed up rural reconstruction. The officers had to look after the moral and material welfare of the villagers. They had to be the friends, philosophers and guides of the men and women in the rural parts. Barthapur was a difficult place to work in. Age-long superstitions, ignorance, caste factions, poverty,—all these proved to be formidable obstacles. And Sugriva Sastry was very earnest about his work. It was not for money that he took up the job. He had the crusading spirit in him. He was passionately eager to convert Barthapur into a smiling garden. But the people would not be benefited. They resented his sternness. They attributed motives to his sincere attempts. They teased him in a hundred ways.

Sugriva Sastry had one weakness. He was too easily affected by criticism. He was not thick-skinned enough. He was ready to labour for twenty hours in the day, but he wanted appreciation and hankered after fame and praise. He did not know that social service was like treating a mad man, and that a social worker should be prepared to receive kicks from the patient he is about to cure. And so he got disgusted with Barthapur.

Gunasankar Mehta, his immediate superior, had great confidence in Sugriva Sastry, and was ready to oblige him in all ways. When, therefore, Sugriva Sastry told Mehta that he could do much better work in any place other than Barthapur, Mehta transferred him to Ushanagar.

One May morning Sugriva Sastry arrived at Ushanagar to take charge of his new duties. He was glad he had got rid of the uncongenial atmosphere of Barthapur, and he was full of schemes for the regeneration of Ushanagar. As he slowly drove through the winding lanes of ill-planned Ushanagar he formed resolves in his mind of how he should straighten the lanes, and deepen the ditches, of how he should open bath-rooms and swimming pools and of how he should send cheer and hope into the homes of the Harijans. And he hoped that Ushanagar at least would realise what a fine rural worker he was.

His thoughts were, however, interrupted. He had by now come to the open square in the middle of the village. It was deserted now as

the adults had gone to the fields, and the children to the school. But on the blackened portion of a temple wall near by were some big letters which drew Sugriva Sastry's attention. He went nearer, and what was his surprise when these words stared him in the face : "You monkey Sugriva ! do not wag your tail here"!

Sugriva Sastry beat a hasty retreat. He caught the mail at the nearest railway station, and took train to Omgar, where Gunasankar Mehta was camping.

"I least expected you here," said Mehta, "you must be at Ushanagar now."

"I too least expected that I would be here. But Ushanagar does not want me ;" said Sugriva Sastry.

"That is strange," aswerered Mehta. "The people of Ushanagar sent me a Mahazar, praying for the appointment of a sincere worker to their village."

Sastry then narrated to Mehta the story of his arrival at Ushanagar and of the unwelcome greeting that faced him there.

Mehta immediately got into his car and drove to Ushanagar. He called for an essembly of prominent villagers and then spoke to them. "I have given you an earnest officer, and Sugriva Sastry will do you much good."

"We thank you, sir," said the village headman, "we have heard much of Sugriva Sastry, and we are glad he comes to us."

"But you must not insult a new officer even before he comes to you," said Mehta.

The people in the assembly could not understand. "We never insulted him," they all murmured.

"Look at that writing on the wall!" pointed out Mehta.

"What of it? It is the business of that Adult Education Society. They write something there every day." Spoke the headman.

"But even they must not show disrespect to an incoming officer," persisted Mehta.

"We meant no insult, sir," said the adult education master, "we in this village follow a scheme of adult education through the narration of the Ramayana. Every night we narrate a portion of the story, and choose a sentence giving the central idea of the day's portion for being written on the wall. The adult students at their leisure learn the practice of writing by looking at the big words on the wall. Last night the story related to the portion wherein Sugriva, after promising to help Rama, went home and delayed help, and Lakshmana went to

him and threatened him with dire punishment in case he did not keep his word. The Sugriva on the wall has nothing to do with the new officer."

Mehta turned to Sugriva Sastry "Sastry, the fault is with your parents. They should have named you diffferent", he said.

"The fault is perhaps, with God, too," said Sugriva Sastry, who for the first time learnt to enjoy a joke againt himself, "God must have made me look less like Sugriva. You see my father was a philosopher. He always used to say that words must adequately convey ideas, and names must reveal personality."

— —

The Shee

They go, as sunbeams ebb and flo
Whence or whither none may know
They who feel the shee pass by
Gain a joy which shall not die
Hide-and-seek is what they play
Thru' the arch of night and day.
Join their game, its players see
Past life's veil of mystery.

Shee = Fairies.

F. H. Aldhouse.

Lord Krishna lifting Mount Govardhan.
(Mola Ram, 1760—1833)
—Courtesy, Freer Gallery of Art, Washington, D. C.

Scientific Research and Development of Industries and Commerce

By S. C. PILLAI, B. A., A. I. I. Sc.,

IT requires no intensive scientific training to understand the enormous importance of science in our present civilisation. The practical instances of Science as applied to the needs of our daily life are, indeed, innumerable. In factories, workshops, mines, railroads, in contact with problems of health, education, agriculture, engineering, transport, and in every other department of human life, in peace and in times of war, one could easily see the concrete results of scientific thought and research. And it is at once apparent that if our civilisation should grow further it can do so, only through scientific advancement.

The primary aim of Science is, perhaps, to explore the facts of Nature and to probe into the real scheme of this wonderful universe.

It is this supreme endeavour that is the true inspiration of all scientific discoveries, as in these processes of thought and perceptions there are delights which are ends in themselves, and as successes in them is the appropriate reward. Scientific investigation is, therefore, essentially an intellectual pursuit, a ceaseless search after truth. In this constructive task of Science, and in the novelty of its visions there is, perhaps, something of an aesthetic character and an element of romance. Clearly, the true function of Science is to enlarge our conception of the material universe and lead us to attain a wider comprehension of Reality.

While the discovery of truth remains its end and aim, scientific enquiry often leads to results of enormous practical importance. More often it happens that scientific knowledge enters with less instantaneous and amazing effect into the daily life and affairs of the community. It is only when we come to consider the various details of some modern commercial product that we suddenly realise how intimately every detail is connected with the advance of Science. One of the most striking instances of the application of the results of scientific research to the developments of modern industry and manufacture, and to the constant use of mankind is afforded by the discoveries of Michael Faraday.

It is upon his discovery of benzene and its structure that the great chemical industries of to-day, particularly the dyeing industries, are

largely based. Much more spectacular applications have followed upon his discovery of the laws of electrolysis and of the mechanical generation of electricity. The modern electrical engineering in its innumerable forms, lighting, transmission of power, cables, wireless and many other marvels of to-day, is entirely dependent upon electro-magnetic action. And how many millions of workers in different parts of the world are now depending upon these vigorous electrical industries for their livelihood! It is really astonishing, and even unimaginable, how all these developments could come into view with a single day's work. About a centuary ago, Faraday, in the course of certain systematic searchings, discovered the way in which one electric current would bring another into being, what is generally known as the electromagnetic induction. By the conception of some "lines of force" traversing all space and by a single laboratory experiment, a new world for the civilised man has been created, not to speak of the great industrial and commercial enterprises therein.

Just in the same way in which the electrical engineering industry with all its branches came into existence, the steam engine with all its applications to railways and steamships came into being. Torricelli, Pascal and others, during their purely scientific investigations, discovered the physical laws respecting the pressures of gases and vapours; and shortly after these discoveries, at a time when the coal-mining industry could not develop owing to the water-logged conditions in the mines, Savery and New Comen found out an industrial power, making use of the newly discovered physical laws for the immediate purpose of surmounting the difficulties in coal mining. The steam engine thus came into view. Later on, by further application of the same physical laws, James Watt added fresh powers to the engine and we have the modern steam engine with all its wonderful applications.

Another striking illustration of a vast industrial development being founded upon a result obtained during some work conducted in a truly scientific spirit is Perkin's discovery of the first aniline dye and one of the key industries that has arisen from it. In the course of his attempts to make quinine, Perkin in 1856, a lad of only seventeen years of age, obtained a black mass; and when he further investigated this strange substance he obtained from it finally the violet dye known as mauvine or aniline purple. The practical result of this intresting inquiry was that from coal-tar, which was then regarded a waste product of no use and often a great nuisance to the manufacturer, can be utilised for the manufacture of many useful substances, in addition to a marvellous variety of dye-stuffs.

Applications of Science for increasing crop production and thus ensuring the supply of man's daily bread, are not less startling. In historical sequence among the events which have developed plant

industry and led to productive enterprise, there indeed follows the application of the knowledge of chemistry and microbiology for studying soil conditions and plant growth, which eventually resulted in the establishment of several agricultural experimental stations all over the world for systematic investigations into the complicated problems of soil constitution and fertility with a view to increasing its productiveness. The most striking result of the classical researches of Pasteur and Koch in the last century is, perhaps, the revelation of a world of microbes incessantly at work, taking part in all vital processes in relation to maintenance of life on this planet. Thus a knowledge of the true nature of the processes in fermentation, putrefaction and similar phenomena was gained in 1857, that each type of such decomposition is brought about by its characteristic organisms. Among the several branches of Science in which the advancement of our knowledge has been profoundly influenced by the discovery of this fact may be included the agricultural science as well, particularly the devolopment of soil microbiology. The observations made on the soil fertility as early as in the prehistoric times and the particularly beneficial effect of leguminous plants in increasing the productiveness of soils known since the beginning of Agriculture could not however be explained and further exploited till the beginning of the latter half of the 19th century, until Pasteur laid the foundations of modern bacteriology. A period of intensive study of soil problems, notably by Boussingault, Liebig, Lawes and Gilbert, followed up the discoveries of Pasteur, and our knowledge of soil processes advanced leading to scientific methods of increasing soil fertility and crop production.

It is deeply interesting to see the rapid development of a fertiliser industry arising out of the researches into the elements of plant nutrition. When it was discovered that, in addition to nitrogen and potash, plants require compounds of phosphorus, such as phosphates, to stimulate their development and ripening, Lawes discovered a remarkable means of producing any quantity of superphosphate. The insoluble mineral phosphates, such as apatite, which have no practical value in agriculture, could be converted into soluble phosphates by treatment with sulphuric acid. About six million tons of superphosphate are now manufactured annually, realising the beneficial effect of this compound on the productiveness of the soil. All these have, indeed, enabled the farmer to grow two blades of grass where it was only possible to grow one blade.

The number of illustrations of the value of research can thus be increased indefinitely. In the history of every modern industry we may note the valuable results of research; and that research alone would continue to improve the standard and further indicate methods applicable throughout a variety of manufactures and thus bring about the desirable improvement in the quality of their output for the benefit of

consumers. Certainly, with scientific progress alone the solutions for the most pressing domestic and industrial problems of the day come; and further more, it mitigates the serious consequences of the steady increase of populations. Science is definitely a working part of the machinery of the State.

The great advances of Science are made by the sporadic birth of penetrative genius, like that of a Faraday or a Pasteur. The outstanding figures in Science are but the embodiments of the true spirit of Science. In their disinterested attempts to increase the intellectual and aesthetic possessions of the world, they incidentally make invaluable contributions for the development of countless industries for man, for his commercial enterprises and for all his comforts and riches. Advance of Science has always altered the environment and transformed human lives. For, 'it is characteristic of Science and Progress that they continually open new fields to our vision'.

The Maladies of Modern Civilization

By DEWAN BAHADUR K. S. RAMASWAMY SASTRI

HUMANITY has tried many roads to a new freedom. But has it arrived at such freedom? Marx thought that economic internationalism will supersede political nationalism. But the historical fact has been just the contrary. Nor can capital become concentrated so as to drive the minor capitalists into the ranks of the proletarians. The proletarians also have been sharing in the exploitation of the Asiatic and African races and have not been the unfortunate exploited as they were imagined and represented to be. The proletariat revolution has not come anywhere except in Russia. Even there it came and went like a sudden storm. Even at its height the orthodox communist principles were diluted in varying degrees, and the latest development is in the direction of parliamentary democracy.

Mr. Bertrand Russell says: "The same causes that produced war in 1914 are still operative, and unless checked by international control of investment and of raw material, they will inevitably produce the same effect, but on a larger scale. It is not by pacifist sentiment, but by world-wide economic organization that civilized mankind is to be saved from collective suicide". But is he right in this view? Is not the disease more chronic and deep-rooted? Will mere world-wide economic organization root it out? He says "Among the growing forces two stand out pre-eminent among all others, namely, Industrialism and Nationalism. Behind both of these, non-political occurrences is Science". But more fundamental than all these is the mind of Man, which has created all these. We have to see what is the disease at the root. Industrialism has now put forward two aspects which are in deadly conflict viz., Capitalism and Socialism. Similarly Nationalism has put forward two aspects viz., Imperialism and Self-determination. All these conflicts can be prevented if Man can develop a new type of mind which will root out the disease of modernity. Otherwise the disease will worsen and the conflicts will end in disaster.

Science is valuable as it enables man to free himself from the necessity of incessant labour for food. But if he is going to use machinery so as to work as before or more than before, the world will be glutted with goods, and the economic conflicts for markets will go on. Science has armed man with weapons for protection. But if he is going to use such weapons on a nation-wide scale and if land-hunger is going to be his master passion, the world will be an armed camp, and the political conflicts of the world will go on. It is, therefore, necessary to cultivate the type of mind which will use Science

instead of abusing it, which will use Industrialism instead of abusing it and which will use Nationalism instead of abusing it.

What is that type of mind ? It is the type of mind which learns from science all the secrets of nature but refuses to manufacture and put in operation destructive scientific inventions, but manufactures and makes available for all constructive and labour-saving and leisure-increasing scientific inventions. It is the type of mind which refuses to use industrialism to over-produce goods of all sorts in every country with a view to dominating all markets and ruin all other countries but uses industrialism to lessen labour and increase leisure for all men and which by means of a world-wide control of production and distribution settles what goods shall be produced and in what quanitities in each country and allows free trade and establishes one uniform world-wide currency or fixes the mutual relations of all the currencies in the common interests of all. It is the type of mind which refuses to use naturalism so as to go on increasing and making more destructive national armaments for the purpose of destroying or conquering other nations, so as to establish one Super-State or a World-State, but which uses nationalism so as to preserve and perfect special national cultural excellences and which establishes a League of all Nations and arms it and at the same time discards national armaments, keeping only a national force.

What is the great—nay, the supreme—contribution of Science to Man? It has enabled him by its methods of intensive cultivation to increase very much the food supply of man and by its methods of industrial production to increase his conveniences and comforts, while lessening the hours of human labour. Every man can and should be a worker and a thinker and an enjoyer, because he would love work and yet have plenty of leisure. As Kropotkin says : "Overwork is repulsive to human nature—not work". It is urged that if the stimulus of profit is taken away because of the abolition of the wage system, men would cease to do work. That would be so if the proper type of mind is not available. Such a proper type of mind will exist only if the Indian concept of *Swadharma* is a dominant force in the lives of man. Socialism will insist on work by all who can work and will pay for work done, but Anarchism does not impose any *obligation* of work at all. But *Swadharma* asks a man to know his nature and his place in society and his function in the social economy and regulates his work and wages on the basis of the common welfare of all. Every one should have a living wage and should have access to parks and picture galleries and music halls and theatres and cinemas so that he may enjoy his leisure nobly and well. Probably the best way of making life happy all round without confiscating private property—which along with the family, form the vital centres of human life and the

abolition of which may be theoretically possible but practically impossible—is to nationalise the public utilities and the public amusements, and to give in each industry interest for capital and a reasonable share in the profits for the capitalist and for the labourers, the prices being regulated in the joint interests of producers and consumers by the Government which would be a democratic Government guarding the interests of the nation as a whole. In any event the Anarchist view that there should be no compulsion to work is impracticable. Equally impracticable is the social view of supervised compulsory work, because no such ideal bureaucracy has existed or exists or will exist in this imperfect world. The *Swadharma* ideal alone will predispose the mind to work. If the rich were to observe this *Swadharma* and use their wealth to serve the poor or worship God, there would be no problem at all. But as they are nowadays too egoistic and luxury-loving to do so, we have to protect the poor against their exploitation. But such protection will not come through socialism or syndicalism or anarchism but only by the methods indicated above.

The Anarchists hate the state and would abolish it. The Syndicalists also ridicule and condemn the State. The socialists would make a tyrant of it by arming it with too much power. Every group of men will have persons of violent natures who would have to be curbed by all external power. Hence the Anarchist theory of life will fail. Every bureaucracy will eventually become a tyranny or at least a wooden and lifeless and soulless mechanism. Hence the Socialist theory of life will fail. Those who believe that somehow democracies will set right the evils of the bureaucratic system are even more deluded persons. The tyranny of majorities is as bad as the tyranny of bureaucracies. The majorities themselves are subject to the influence of demagogues, who generally win elections by cajolement and flattery and deceit and forget the electors after the election campaign is over. It is thus clear that the remedy is not socialism or syndicalism or anarchism but the type of mind indicated by *Swadharma* and autonomous economic groups as envisaged by guild socialism kept together by a democratic state which will own and manage the public utilities and the public amusements and will keep the various groups from encroaching on one another and will not, at the same time, be allowed to become an all-powerful bureaucracy owning everything and employing everybody at its will.

It is necessary to subject current shibboleths to the search-light of reason and evolve a new type of mind which alone could cure the malady of modern civilisation. Let us take the ideal of self-sacrifice for others in the cause of progress—the ideal about which the western man is so very proud to-day and which he points out with unctuous self-righteousness whenever he is taunted with his economic maladjustments and political exploitations. There is certainly a glamorous

nobility about the ideal, but there is also a great deal of unreality and hollowness about it if it stands alone. What is meant by service of others ? John MacMurray says well : " If I want to serve other people, I can't do it unless they are willing to be served. If everybody is to serve, then there is nobody to accept the service. We can't be unselfish if nobody is prepared to be selfish ". About the ideal of progress he says : " That means that we should all sacrifice ourselves and devote ourselves to the future in order to produce a better world when we are all dead. But if that future society is going to be a good society, it will have to do the same and devote itself to serving a more distant future still ; and so on for ever and ever. And nobody will ever get the benefit of all this service and self-sacrifice. Whichever way you take it, the idea of serving progress is a nonsensical one". He puts in a powerful plea for the achievement of a new freedom through a new consciousness of the meaning of personal life. He says : " Freedom, which is the basis of morality, is a matter of spontaneous self-expression in action...... The supreme reality of human life is the reality of persons, and of persons in personal relation with one another. Friendship, therefore, is the essence of morality". Self-realization is love of others in the real life. Self-realization is the true moral ideal. But to realise ourselves we have to be ourselves, to make ourselves real. That means thinking and feeling really, for ourselves, and expressing our own reality in world and action. And this is freedom, and the secret of it lies in our capacity for friendship."

Thus the modern shibboleths like the modern institutions are hollow and have failed. I do not say for a moment that we can return to a pre-industrial agricultural state of society. That is not going to happen any more than a return to Rousseau's state of Nature. Industrialism has come to stay. Nationalism has come to stay. The real question of questions is if they shall master man or if man shall master them. The only sensible course is to foster and nurture the new type of mind referred to by me and by its power master industrialism and nationalism. Industrialise all the countries of the world while balancing industry and agriculture but shorten the hours of industrial labour everywhere. A world Economic and Industrial and commercial League must limit production in each country in the common interests of all. No man should work for more than four hours a day. The present land-hunger and market-hunger should vanish. Goods must be produced for use and not for profit. The League will settle what goods shall be exchanged between countries and what goods shall be produced for home consumption alone in each country.

Equally necessary it is to effectuate the League of Nations by making it inclusive of all nations and by providing it with military sanctions and disarming the nations of the world except to the extent

needed for internal police administration. This, I know, is as difficult to achieve as the former reform. But I hope and believe that the collective wisdom of humanity will make the nations see the folly of fighting one another and eating up one another. A powerful and effective League of Nations will not be like the present League, which hopes to silence artillery by verbal thunders. It will not allow America to enforce its Anti-Asiatic legislation or Australia to carry out its White Australia policy. It will be able to control the political policies of the nations in the interests of all the nations.

When nations thus achieve peace without and leisure within, what are they to do with such peace and leisure ? Science, literature and art and philosophy and religion are the regions where humanity is most truly itself and even transcends itself. Modern nationalism and industrialism have been as inimical to art as they have been inimical to religion. Russel says : " A modern industrial community, when it wants an artist, has to import him from abroad ; it then pays him such vast sums that his head is turned and he begins to like money better than art." Even in the realm of science the utilitarian habit of mind squeezes out that self-dedicatedness which is the secret of scientific advancement. Russel says with admirable discernment and justice : " Science, hitherto has been used for three purposes ; to increase the total production of commodities ; to make wars more destructive ; and to substitute trivial amusements for those that had some artistic or hygienic value ". But hereafter there will be no such production or war, and the new type of mind will be nauseated by trivial amusements and melodramatic cinemas.

Then it is all a question of faith—of *sradha*. Sri Krishna says : *sradhamayoyam purushah yo yat sradhah sa eva sah* (Man is what his faith is. What he believes in that he is). Our grip over the values of life is weak and weakening further. Science can help or harm man but that depends on the goodness or the badness of man. What can science in the hands of bad men do to help mankind ? Religion told men how to be good but modern men has no love for it or knowledge of it, It has also largely got degraded into formalism and superstition. Further, civilization tends to make us too intellectual and selfish and ease-loving. We have based our life upon competition but co-ordination is far nobler and more human as well as more humane than competition. Even higher than the emotional life is the moral life, and even higher than the moral life is the spiritual life. All this has been forgotten today. Religion helped before to bring about a fusion of the intellectual and emotional and moral and spiritual values of life. But it is getting less and less vital and more and more neglected.

We have, therefore, to restore the integrity of our mind. We have to re-attain a clear vision of the values of life. Science must know its limitations and religion must know its real power and its real duty in

human life. We must know the values of life correctly and in true perspective once more.

The springs of human life lie imbedded in divinity. There is a fundamental *elan vital*, a deep-seated *Joie de vivre*, a core of *Sat Chid Ananda*, to use the terminology of the Upanishads. Religion is the *sanctum sanctorum* and Art is the ornamented and multipillared *arthamantapa* and *mahamantapa*. Economic life is but *Prakara*, while political life is the high and unscaleable rampart wall with the Government as the high and far-seen *gopura* or dome with the massive and well-guarded gate. What shall we say of the trustees who repair the wall and *gopura* but allow the *Prakara* to be full of thorns and who allow the *arthamantapa* and *mahamantapa* to fall into ruins and the *sanctum* itself to be lightless and enveloped in darkness?

I do not mean that we should stand helpless in the face of the disease of modernity. In fact, it is the part of manliness to resist the spread of the disease by preventive measures and to root out the disease by remedial measures and resist it by hygienic measures. For doing this work both idealism and research are indispensable. If a more comfortable existence all round is the goal, it is enough to change the environment. But if more knowledge and love and freedom is the desideratum, we must not only change the environment but we must also do the more difficult and urgent task of bettering ourselves. Russell says about the modern world: "But it will pass away, burnt up in the fire of its own not passions; and from its ashes will spring a new and younger world, full of fresh hope, with the light of morning in its eyes". But I do not wish to die and to be reborn. Can it not cure itself of its disease and live a radiant energetic life and be beloved of man and God?

Sir William Henry Perkin

The Father of the Coal-tar Colour Industry.

By B. H. IYER, M. Sc., A. I. I. Sc.

"And, of course, the end result of all our work should be the benefit of mankind."—*Sir W. H. Perkin.*

IT is rather rare that a successful discovery, invention or synthesis made in a laboratory is forthwith applied on a large industrial scale for the benefit of humanity. The time lag between a laboratory achievement and its industrial realisation is always considerable. Equally rare it is that the same person responsible for the discovery becomes the prime-mover in its large scale adoption. The development of the coal-tar colour industry is an exception to the above dicta. Sir William Henry Perkin the father of the modern coal-tar colour industry synthesised the first artificial dye called *mauve, aniline purple* or *tyrian purple* and extended its preparation on a manufacturing scale in a factory of his own. The story of the life and work of this great personality is briefly narrated here.

Born on 12th March 1838 and of a lineage of successive farmers, carpenters and boat-builders, William Henry Perkin was the seventh and youngest son of George Fowler Perkin and Sarah Cuthbert of London who were staying in their home called "King David's Fort" at 3, King Edward Lane Shadwell, E. True to his ancestry, Perkin, even when very young, showed great interest in work of a mechanical nature. When he was 12 or 13 years old one of his friends showed him a few chemical experiments The process of crystallisation was also demonstrated to him. All these—particularly the various crystalline forms of substances—caught the imagination of the young lad and he at once resolved to become a chemist when he grew big. William Perkin's inherent love for chemistry may be hereditarily

traced to his grand-father, Thomas Perkin, who was the first of the Perkins to show any interest in the subject. History records that Thomas had converted a cellar in his house at Black Thornton near Ingleten into a crude laboratory and that Sir Perkin discovered it when he visited his ancestral home.

At an early age he joined the City of London School where he came under the influence of his teacher, Mr. Thomas Hall, who was a former pupil of Dr. A. W. Hofmann, the great organic chemist. Young Perkin showed high proficiency in chemical science—both theoretical and experimental—and soon won the admiration of his teacher. Thereupon Mr. Hall made him his honorary lecture assistant. On many occasions, Perkin did willingly forego his dinner as there would be some lecture-experiments to be got ready and as no time was allotted for this during working hours. His examiner Mr. (later on Sir) Frederick Abel was also a student of Hofmann and thus right from his school career Perkin was directly under "*Hofmannic*" influence. From Hall and Abel he heard so much about the Royal College of Chemistry and its learned Professor, Dr. A. W. Hofmann, that his desire to join that Institution was kindled to a great extent. His ambition was to become a chemist and a researcher. On the contrary, his father desired that he should become an architect. In this conflict of ideas the intensive desire to become a chemist survived. Thanks to the intervention of his loving teacher, Perkin got his father's hard consent to pursue the studies in chemistry.

His fifteenth year (1853) saw Perkin as a pupil under Dr. A. W. Hofmann in the Royal College of Chemistry, London. The students working there at research appeared to him to be superior beings; something beyond ordinary persons. The eagerness to join their ranks early, activated him to quickly go through the routine course consisting of a study of the reactions of metals, qualitative and quantitative analyses and gas analysis by Bunsen's method. On the successful completion of this preliminary course, Prof. Hofmann initiated him into the marvels and mysteries of chemical research. At this time (1854) organic chemistry was in its infancy. Coal-tar—the parent substance of the synthetic dyestuffs industry—had not yet yielded to chemists, its valuable constituents. The structural chemistry—the frame work on which modern organic chemistry is built up—had not yet been developed. Necessarily the conception regarding the formation of one compound from another was very crude. With all that, during this period much interest was evinced in the artificial formation of naturally occurring organic substances.

The first piece of research work entrusted to Perkin was the preparation of a base from the hydrocarbon anthracene—called paranaphthalene in those days—through the two stages of nitration and reduction. However anthracene could not be nitrated and hence no

base could be obtained. But in the course of his research he prepared anthraquinone and chloro- and bromo-derivatives of anthracene. Although unsuccessful, the experience he gathered during this work was of great help to him several years later when he commenced work on the production of alizarin.

Under Hofmann's guidance Perkin next studied the action of chloride of cyanogen on naphthylamine. This he completed in 1855. But the results were published only in 1856 in the Journal of the Chemical Society of London. It was his first research paper.

After this much experience in research, Hofmann promoted him to the position of an Assistant in his research laboratory. Perkin was then only 17 years of age. In the new capacity he came into intimate contact with the various research problems then being tackled by Hofmann and with the various workers who joined that famous Institution. During daytime he had hardly any leisure for carrying out research work by himself. Therefore the seething enthusiasm to pursue chemical researches induced Perkin to fit up a part of a room in his house—King David's Fort—as a rough laboratory where he worked in the evenings and during vacations. Here, conjointly with Mr. A. H. Church—one of his colleagues in the Royal College—he worked on some colouring matters derived from dinitrobenzene and dinitronaphthalene. One of the products—aminoazonaphthalene—they then isolated, proved, in the years that followed to be the first member of that wide class of dyestuffs called " azo- dyes ".

Perkin's next piece of research carried out in his crude home laboratory laid the foundation on which the modern dyestuffs industry has been built up. His ambition to carry on studies in the artificial formation of naturally occurring organic substances led him to undertake the synthesis of quinine. Based upon the then popular additive and subtractive methods of synthesis, he formulated a scheme to prepare quinine starting from toluidine. To his great disappointment and to the good luck of the colour industry, the potassium dichromate oxidation of allyl-toluidine-sulphate, instead of yielding quinine, led to the formation of a dirty reddish substance. Although the result was discouraging, Perkin's keen sense of observation perceived something of great interest in the unexpected course of the oxidative reaction. He at once undertook a detailed investigation of this reaction and started with aniline, a base simpler than toluidine. Announcing this discovery Perkin has said :

> Aniline was selected, and its sulphate was treated with potassium dichromate ; in this instance a black precipitate was obtained, and, on examination, this precipitate was found to contain the colouring matter so well known as *Aniline Purple* or *Mauve*, and by a number of other names. All these experiments were made during the Easter vacation of 1856 in my rough laboratory at home. Very soon after the discovery of this colouring matter, I found that it had the properties of a dye, and that it resisted the action of light remarkably well.

Thus the first coal-tar dye was born.

After the re-opening of the college the experiments were continued in the evenings. Although the efficacy of the colouring matter as a dye had been established, its costliness consequent on the difficulties of preparing aniline on a large scale, made the probability of its industrial success doubtful. Perkin then got introduced to Messrs Pullar of Perth—a company of dyers—to whom he sent specimens of dyed silk. On June 12, 1856 they wrote to him as follows:

> If your discovery does not make the goods too expensive, it is decidedly one of the most valuable that has come out for a very long time. This colour is one which has been very much wanted in all classes of goods.

Encouraged by this report and assisted by his brother, T. D. Perkin, William Henry commenced preparation of the colouring matter on a very small technical scale during the summer vacation of 1856. He patented his process on August 26 of the same year (English Patent No. 1984). He carried out experiments in cotton dyeing and calico printing at Messrs Pullar of Perth and also in Scotland. Due to lack of knowledge about suitable mordants, cotton dyeing was not very successful. In printing experiments results were sufficiently encouraging; yet, the printers in general were hesitant to welcome the new arrival. However, at this stage Perkin made bold to undertake the manufacture of the dye. Mr. Thomas Keith, a silk dyer of Bethnal Green, London, who was also convinced of the qualities of Perkin's mauve, encouraged him to go on with the production.

In October 1856, much against the wish of Dr. Hofmann, Perkin resigned from his position as Assistant in the Royal College. He was then only eighteen years of age. The bold step he took is very laudable indeed! With the help of his father and brother, William Henry acquired a site at Greenford Green, near Harrow and commenced the building of the works in June 1857. Perkin had no factory experience to guide him in his venture. He had none of the modern facilities for the purchase of machinery or erection of a plant. The chemicals necessary for the production of the dye were not easily and abundantly available. Benzene which through nitrobenzene would give aniline could not be got in quantities. Nitric acid of sufficient strength was not commercially available. Further, the lack of enthusiasm among the prospective consumers could have damped the interest of any other worker with less determination and courage. But William Henry Perkin was not to be daunted by these obstacles. He was rigidly determined to reach his goal. In December 1857—within six months after the building of the Greenford Green Works was commenced Perkin's mauve was in use for silk dyeing in Mr. Keith's dye-house. His firm was known as Messrs. Perkin & Sons. Thus, within a short period of two years the discovery and the industrial application of the first synthetic dye were achieved.

Critics say that the discovery was purely accidental: the same could be said of most of the discoveries. The fact to be appreciated lies in the keen sense of observation and foresight which led Perkin to recognise the importance of the oxidative reaction and study it further.

Side by side with the industrial activities, Perkin continued the pursuit after chemical knowledge in his home laboratory. He valued research as an aid to industrial development. He discovered that for getting a pure and even colour on silk it should be dyed from a soap bath.

Once the quality and the producibility of Perkin's mauve was established and its application became wide, competitors for its manufacture began springing up. In 1860 Messrs. Dale and Caro of France patented a process where chloride of copper was substituted for potassium dichromate. Perkin had made the researchers and industrialists "colour-minded". A host of workers were already searching for new dyes. Early in 1859, three years after the introduction of the first synthetic dye, M. Verquin of France discovered *fuchsine*, another aniline dye also known as *magenta*, *roseine* or *rosaniline*. Thus the credit of taking the second step in the coal-tar colour industry goes to France. Magenta was more brilliant than mauve; But it was less fast against light. However the love for brilliancy having excelled the regard for durability magenta, the new dye, was cosidered to be the most successful of the coal-tar colours. Thereafter additions to the list of synthetic dyes came in quick succession and in greater varieties. Dr. Hofmann and his students contributed much towards the development of this major industry.

In 1859 Sir William Henry Perkin married his first cousin Jemima Harriett Lissett and they lived in Chesham Villa, Sudbury where their first son William Henry Perkin (junior) was born in 1860. They then moved to Seymour Villa where Arthur George Perkin was born in 1861. Shortly after, Mrs. Perkin died of consumption. In 1866 he married Alexandrina Caroline Mollwo by whom he had one son—Frederick Mollwo Perkin—and four daughters.

In 1868, Graebe and Lieburmann of Germany synthesised *alizarin* the colouring matter from madder root, *Rubia 'Tinctorum'* and took a patent. This discovery opened up a fresh chapter in the progress of the dyestuffs industry, as coal-tar chemicals other than aniline formed the starting materials in this series of dyes. The German process where anthracene played the primary role consisted in producing dibromo-anthraquinone and fusing it with alkali at high temperature to yield alizarin (*1 : 2—dihydroxy-anthraquinone*). Perkin immediately recognised the potentialities of alizarin as a dye. Having some quantity of anthracene and anthraquinone left over from his first researches in 1855 at the Royal College

of Chemistry, he commenced work with a view to evolving a new process where bromine need not be used. Wurtz and Kekule (1867) had shown that fusion of benzene-sulphonic acid with potash yielded phenol. Dusart, another worker, had prepared dihydroxynaphthalene in a similar manner. Adopting this scheme Perkin synthesised alizarin by the potash fusion of anthraquinone-disulphonic-acid, the latter being obtained by treating anthraquinone with sulphuric acid. On May 20, 1869 he submitted patterns dyed with his alizarin to Mr Robert Hogg of Glasgow for approval and patented the process on June 26 of the same year. About the same time Graebe, Liebermann and Caro in Germany arrived independently at the same results. In November 1869 Perkin patented another process for the synthesis of alizarin using dichloranthracene. Having made these discoveries, he satisfied himself by experimentation that the colour was useful both for the dyer and printer. But the price was prohibitive as anthracene —the starting material—could not be got in quantity and at a low price. So Perkin next turned his attention to the production of anthracene in his factory both by the distillation of pitch and by recovering it from the last runnings of tar stills. The firm of Perkin & Sons now consisted of only William Henry Perkin and his brother, their father having died in 1864. During the process of purification of anthracene by distillation with potash, Perkin isolated what was later on identified by Graebe as *carbazol* a chemical containing nitrogen. By careful and diligent work and with the experience of over a decade in the colour line, he overcame one difficulty after another in the production of alizarin. The availability of fuming sulphuric acid for manufacturing purposes quickened the pace and by the end of 1869 Greenford Green Works had produced one ton of the colouring matter. Perkin, being convinced that artificial alizarin could be produced at a price capable of competing with that of the natural dye from madder, began manufacturing it in increasing quantities. The production figures for the years 1870 and 1871 were 40 and 220 tons respectively. Until 1870 Perkin & Sons were the only firm manufacturing artificial alizarin. Thereafter the German products began appearing on the market, although there was little competition from them till the end of 1873. Thus it is seen that Sir William Henry Perkin was essentially responsiable for the commercial introduction of aniline and alizarin colours which justly earned for him the position of the Father of the coal-tar colour industry.

With the onrush of dyes giving brighter shades Perkin's mauve slowly disappeared from commerce. After ten years of vigorous life Perkin & Sons showed signs of decline, but Perkin soon undertook the production of other dyestuffs and thus kept the firm afloat for nearly another decade. In modern times Perkin's mauve has only a historical importance: it is no longer an active dyestuff. One of the latest uses

of mauve was for printing the 1881 issue of lilac one penny British Postal stamps which were in use until the end of Queen Victoria's reign.

Towards the end of 1873 it was realised that complete revision and enlargement of the plant at Greenford Works had become necessary and would involve considerable capital expenditure. Perkin took that opportunity to sell the Works covering about six acres to Brooke, Simpson & Spiller. The sale deed was completed in 1874. After passage through a few more hands Perkin & Sons ultimately developed into the British Alizarin Company.

Perkin was profoundly affected by the terrible explosions and fires that occurred in the factory despite all precautions. Being of a religious temperament he could not continue to be responsible for exposing his employees to such risks. Litigations arising from works effluent and infringements of patents made his life miserable. Furthermore, in those days, only German chemists were available who invariably left his services the moment they learnt the art of production. Last but not least, he was very eager to concentrate on research work in a quiet atmosphere. For these reasons Perkin retired in 1874 after 18 years of strenuous industrial life. Perkin converted his home at Sudbury into a series of laboratories where he peacefully continued his chemical researches for the rest of his life. By the side of his laboratories he built a big dwelling house which he named "Chestnuts".

By about 1880, owing to the negligence, want of foresight and unhealthy contentment of the British manufacturers and capitalists, the centre of gravity of the dye industry had shifted from England—its land of birth—to Germany—its foster land. After the Franco-Prussian War of 1871, which paralysed every continental industry, Germans took to manufacture very seriously and applied all their scientific resources and skill to its development, so that before the end of the nineteenth century Germany had become the head-quarters of this world industry.

Perkin's research publications—all in the *Journal of Chemical Society*, London—number about ninety. All of them excepting ten are his independent, un-collaborated contributions. During the eighteen years of industrial life he communicated 30 papers; the rest came subsequent to his retirement. In the early researches Perkin mainly concerned himself with colouring matters and allied substances. Later he worked on organic acids, like acetic, anthraflavic and tartaric acids. "Perkin's Reaction" discovered in 1877 and well known in theoretical organic chemistry—is a general reaction for the synthesis of unsaturated acids by heating an aliphatic or aromatic aldehyde and the anhydride of a fatty acid together with its sodium salt. He has done important pieces of research in the physico-chemical sphere as well. His work on the magnetic rotatory polarisation as an aid for the elucidation of the

structure of chemical substances is of outstanding theoretical significance; 1881 onwards he published over 15 papers on this subject. In a short sketch like the present one it is not possible to give even a brief summary of all his work. Suffice it to say that the varied nature of the problems he tackled amply illustrate the versatility of his intelligence and genius.

Innumerable were the honours showered upon William Henry. Only a few will be enumerated here. The first award consisted of silver and gold medals in 1859 by La Societe industrielle de Mullhouse for the discovery of mauve. He was elected a Fellow of the Royal Society (F. R. S.) in 1866 when he was only 28 years old. The various scientific societies and the British and Continental universities honoured Perkin by presenting him with their famous medals and highest degrees respectively. In 1906 His Majesty the King Edward VII adorned him with a Knighthood.

He joined the Chemical Society of London in 1856. He was its Secretary for 14 years (1869—1883) and President for 2 years (1883—1885). He was also President of the Society of Chemical Industry (1884—1885), the Society of Dyers and Colourists (1907), and Faraday Society (1907). For one year (1893—94) he was a Vice-President of the Royal Society of London. He was one of the foundation Fellows of the Institute of Chemistry, London.

Under the auspices of the Lord Mayor of London an international celebration of the jubilee of the discovery of mauve was held in London on the 26th and 27th of July 1906 at which Sir Perkin was the recipient of many addresses and honours. At special invitation, Sir William and Lady Perkin accompanied by their daughters, visited America and participated in the commemorative jubilee celebrations of his discovery held on 6th October 1906. On the 17th of the same month they were received and entertained by President Roosevelt.

After the jubilee celebrations in 1906 Sir William Perkin was looking forward for rest and resumption of work when he was taken ill. Averse as he was for medical treatment, a dietist looked after him in the early stages of his ailment. But the fatal disease soon got out of control and after four days of suffering Sir William Henry Perkin died of double pneumonia and appendicitis on 14th July 1907. He was buried in the churchyard at Roxeth, Harrow, a few miles from the Green Ford Green Works. The colour world— Perkin's creation since 1856—is a standing memorial to this celebrated chemist.

It is a happy coincidence and a great source of satisfaction to Sir Perkin that all his three sons took to chemistry as their profession and made outstanding contribution.

The keynotes of Perkin's character were his modesty and simplicity. His devotion to chemistry knew no bounds. He was deeply

religious. Sir William was frugal in tastes. He was a life-long teetotaller and non-smoker.

His hobbies were gardening, painting and photography; his means of exercise, cycling. He grew flowers and cultivated madder. His paintings adorned the walls of "Chestnuts". Perkin's photograph, taken by himself at the age of 14, has become a constant remembrancer of his boyhood. Occasionally he used to cover long distances on a bicycle. Perkin was not only a resourceful colourist but a musical entertainer as well. He played on piano, violin and double bass. It is said that ten members of the Perkin family constituted a pleasant orchestra in which Sir William played the double bass.

In March 1938 the Society of Dyers and Colourists celebrated Perkin's birth centenary in a fitting manner.

What Perkin said in his presidential address to the Chemical Society of London in 1884, with regard to the necessity of employing research workers in chemical industries, holds good for all time. He said:

> Men who have studied chemistry sufficiently to do analysis and look after processes which are well known, are certainly useful in their way; but we want more than this; we want men who have had their minds so trained by carrying on research that they may be imbued with a spirit of investigation and be able to improve or entirely change processes in use and to keep up their knowledge of chemical science so as to be able to grasp the importance of new scientific facts and make them subservient to the industries they are engaged in.

References.

1. Perkin: Hofmann Memorial Lecture—Origin of the Coal-tar Colour Industry. *Journal of the Chemical Society*. 1896, *57*, 596.
2. Rowe: Perkin Centenary Lecture. *Journal of the Society of Dyers and Colourists*, 1938, *54*, 551.
3. Perkin: Presidential Address. *Journal of the Chemical Society*. 1884, *45*, 223.
4. Perkin: Presidential Address. *Journal of the Society of Chemical Industry*, 1885, *4*, 427.
5. Meldola: His Views. *Journal of the Society of Dyers and Colourists*, 1906. 22, 143, 238–240, 356.
6. Meldola: Obituary Notices. *Journal of the Chemical Society*, 1908, *93*, 223,

The Mysticism of the Vedic Metres

By Dr. MOHAN SINGH, M. A., Ph. D., D. LITT.

TERRIBLE misunderstanding prevails about the *Chhandas* or metres of the Veda and their relation to Time. A metre is but a measure and the fundamental metres of poetry should not only be, and are not different from, the shadow-measures of astronomy and the measures of human breath-Prana and the human mind, but should also be and are correspondential and identifiable and identical with them. The *Matsya Purana* says (CXXV): "The sun moves in such a glorious chariot. It resembles the vehicle of *Varuna* in all details. The Vedic 'metres', measures, are the steed to whom the wheel is attached. Now the various parts of the sun as well as of his chariot denote the various parts of the year. Years are the spokes of the wheels, the six seasons are its peripheries; the *yugas* of the axle and pins, the *kalas* (parts) which carry the *Artas*. *Kusthas* are the nostrils of the horses; *Ksanas* are their row of teeth; *Nimesha* is the floor (*anukarsa*): *Kala* the Pole (Isa). The Vedic metres are the seven horses that like the air swiftly glide with the chariot. *Gayatri, Tristupa, Jagati, Anastupa, Pankti, verihati, Usnik* the seventh. The success of the sun's chariot is due to the conjuction. The chariot of the sun is occupied by the several (1) *Devas* month after month by turns in regular succession; they carry Him on His path together with a host of (2) *Rishis* (3) *Gandharvas* (4) *Apsaras* (5) *Nagas* (6) *Charioteers*, and (7) *Raksasas*. These *Risis* etc. dwell there in the solar orb for 2 months, turn by turn and then make room for others. (These seven are his measures). Besides these the *Valakhilya Rishis* salute the sun and accompany Him from His rise till He sets. During the several *manvantaras* the seats of the *Abhimani Devatas* are thus changed. *This order is always the same; whether in the future, in the past or at present.* Thus the seven sets of two dwell in the 14 *Manvantaras*. They are 14 in number and change their places thus in the course of *14 Manvantaras*."

Now, what are the 7 measures, equating with 7 couples of months, 7 couples of *Devas*, 7 couples of *Manwantaras*, 7 oceans, 7 islands, 7 horses, 7 Pranas, 7 planets, 7 days, 7 rays, etc.

We hear more about them. "The Sun in the course of one single day and night goes swiftly over the world consisting of the 7 oceans and the seven islands, seated in His one-wheeled chariot drawn by 7 horses. The 7 horses are no other than the seven *chhandas*; they can assume forms at their will; they go as they like; their speed is swift as wind; their colour is tawny; and being once yoked they go on incessantly; they are never tired a bit. They are the gods declaring

the glory of Brahma. Ascending on such a chariot the Sun travels the earth in course of one day. The horses *were* yoked at the beginning of a kalpa and carry on the Sun till the end of the Great Dissolution. The great Rishis recite praises to Him in the chosen words composed by them. Thus the Sun is carried on by the horses flying like birds. The swift moving divine horses yoked to the Moon's chariot are 10 in number ; they look *white* like shells and are of one colour. *Aja, Tripatha, Vrisa, Vaji, Nara, Haya, Amsumara, Saptadhatu, Hamsa* and *Vyomamriga* are their names. Thus he goes on surrounded by the *Devas* and the *Pitris.* The chariot of young Mars is drawn by 8 *red* horses; that is the number of horses of *Vrihaspati,* son of *Angira,* of *Rahu,* of *Ketu.*

"The fire in the Sun is like a *red*-coloured *jar* and it has 1000 legs. These thousand rays cause heat, rains and cold. Of these, 400 rays look like *Nadis* and are of variegated forms ; these cause rain. *Chandana, Medhya, Ketana, Chelana, Amrita* and *Jivana* are all rain-producing rays. 300 rays produce cold and they are drunk by the moon, stars and planets ; these are the middle rays. The other rays, 300, are all *white* and gladden the hearts of beings. They cause heat. They are *Kukubh, Go, Visvasrit, Sukla* and others. They sustain and protect the *Devas, Pitris* and human beings. During spring and hot weather the sun imparts heat by his 300 rays ; during the rainy season and autumn he causes rain by his 400 rays and during the dewy and winter season imparts cold by his 300 rays. He satisfies men by producing herbs, the *Pitris* through the libations of water *Sradha* and the *Devas* through the sacrificial offerings *Svaha.* He imparts strength in the herbs and plants, bestows nectar to Sradha, and imbues immortality in the nectars of the *Devas.* Thus He benefits the three worlds by His three-fold action. His thousand rays thus perform different functions in the different seasons, causing good to half the *lokas.* From Him emanate the stars, planets and the moon and they are preserved by Him.

It is by the *Susumna* ray of the Sun that the Moon waxes again day by day. The stars are born from the *eastern* ray of the Sun, named *Harikesha.* The *Visvakarma* ray of the sun is in the *south.* He is the sustainer of the planet Mercury. The *Visvavasu* ray of the Sun is in the *west* and He is the originator of the planet Venus. The *Samvardhan* ray is the originator of Mars ; the *Asvabhu* ray, the sixth one, is the producer of Jupiter ; the *Surata* ray nourishes Saturn. *Because these never fade therefore they are called Naksatras.* These are the fields, the regions of the Sun........... The Sun is called *Aditya* on account of His having the lustre of fire and the asceticism of the *holy kings* of this earth as well as those of Heaven. The root *Srav* means to pour out, to ooze and the sun is called *Savita* because he sheds, pours out *tejas,* fire. The root *chand* has various meanings : it connotes whiteness, nectar, cold and pleasure. The word *Chandrama* has come

out of this root. The shining *mandalas* of the sun and the moon in the divine firmament are luminous, white, full of water and fire. They look handsome like white *pitchers*. The planet Venus has his Sukra abode. This Sukra abode is shining and has 16 spokes—*16 petalled lotus.* Jupiter has attained his *Vrihat* abode. *Vivasvan* the Sun is the eighth son of *Aditi*. The luminous moon is known as *Vasu*. He is *qualified* with *Dharma*. The ugly Saturn was born of the womb of Samgya by the Sun. *Mangala* was born of the womb of *Vikesi* by Fire. The abodes of 9 and 12 rays—petals, of *Sukra* of 16 rays—petals, of Saturn of 8 petals. These rays (like *Nakshatras*) are called *Tarakas* and *Suklikas*.

The several locations of the luminous spheres of the firmament are brought on by the influence of the Sun. In its central part there exists the wind termed Avarta. This pervades in the form of a circle all the *Nakshatra Mandalas*.

The Sun, moon and the planets run towards the stars, and get merged in them. They remain in their *Uchcha* and *Nicha* house (aphelion and perihelion) and while entering into or coming out of them they look on the beings."

What are those seven horses, seven measures? When the Veda speaks through a Rishi in a particular metre what correspondences does it imply, what other things on earth and in heaven does it reveal besides hymning Him? A God is a measure, Chhanda of Him, the Immeasurable; well, it is some measure; so is a goddess. We have read of these horses being gods. The *Taitt. Samhita* III 4, 9, says the metres are *Devikas*. But these goddesses, and gods are themselves astral phases, Pranaphases, psychological phases. So the *Samhita* proceeds with the identifications. It pictures the full-moon day *Anumati* as the metre *Gayatri*; the bright fortnight *Raka* as the metre *Trishtup;* the new moon day *Sinivali* as the metre *Jagati* the dark fortnight *Kuhur* as the metre *Anushtup;* while the Moon *Chandramas* called *Dhatri* is pictured as the word *Vashatkara*. After reading these can one still doubt the truth of my exposition of the Vedic mysticism and support Keith when he says that such identifications are of no use to Indian philosophy? The end of mysticism is identification, not only in mind which is, of course, the last Vedantic stage but in action—ritualistic, individual, social and national and in worship. He has chosen to identify Himself with Time-Space.

More of these identifcations will be found in my book "What is Death". Reading the quotation from *Taitt.* together with the extracts from the *Matsya Purana* given in the present essay, we must in all conscience stop talking about Vedic poetesses and cease to mislead the student of Vedic mysticism, which is all a Time-Space, Name-Form teaching of the Truth through the portrayal of the law of correspondences. In the foregoing long passage from the *Matsya* there are

the astral-human correspondences of Chakra-petals to which attention is invited. The heart *chakra* is of 16 petals and that is the "watery abode of *Vrihaspati*; similarly there are the other planets in the human *Chakras*. But these planets do not merely reside in, and correspond with, the 6 or 7 human *Chakras*, they are also in the human *Prana* (5 or 6 or 7 Pranas) also. These identifications are elaborated in the " Secrets of the Kaula Circle " (E. Sharpe) where it is said : "In the human body the spirit is chained by the breath (*Avritta* in the Sun or Pravaha) and this breath changes every 5 *gharis* and one element remains in settled order during each *ghari*. These elements move and are named after the 12 signs of the *zodiac* (Aries to Pisces). Of signs of the zodiac 5 (Taurus, Virgo, Scorpio, Pisces and Cancer) are of the moon breath, 5 are of the Sun (Leo, Libra, Cancer, Aries, Taurus). There are five elements in the breath—Fire with Mars as its Lord, Earth with Sun as its Lord, Wind with Saturn as its Lord, Water with Rahu as its Lord...............".

There are seven kinds of measures, in the Veda, that is, on the several planes of existence, in the several races, in the different seven parts of the year or the seasons etc., we have to use for the particular season, plane, race, branch of knowledge, a particular rod, shadow etc. In yoga we have the matra ; in phonetics the half-syllable ; in light, the ray. The mountains, rivers, oceans etc. are the space-*chhandas*, the measure types, kinds of space. And all these space-time-attribute measures total 7 or 7 × 3 = 21. The *Chhando ya* is one who knows the measures ; the *Atma* is the measure, so is the *Prana*, the *Chakra*; it is in the terms of the measures that we can see Him ; in only one measure at a particular time ; and all these measures are similar and pervaded, inspired by the Unity. In fact they, as the *Purana* so beautifully puts it, glorify Him, manifest his glory. The day and night, the fortnight, *Agni*, the *vasureta*, the Moon the Peace in the heart etc. all these seven-fold, from Heaven to the Earth, measure Him out in speech, draw along his one chariot across Time and Space. Time-space is thus the apparent Great Brahman. The *Chhandogya Upanishad* gives us the secret, psychological and spiritual, of these measures and the Chhandoga Brahmana measures out the Brahman in all His seven (14, 28) manifest forms. In the *Matsya Purana*, CCLXV, we have a fine description of the universe in terms of the Idol consecration and Idol worship. We read : "The *Chhandoga* Brahmanas sitting in the west should recite *Vamadevya*, *Vrihatsama*, *Jyesthasama*, *Rathantara*, *Purusasukta*, *Rudrasukta* with *Santika* and *Bharunda Sama*...*Prithvi* is protected by *Sarva Mahadeva*, *Agni* by *Pasupati*, *Yajamana* by *Ugra*, *Aditya* by *Rudra*, *Jala* by *Bhava*, *Vayu* by *Isana*, *Chandrama* by *Mahadeva*, *Akasa* by *Bhima Murti*."

Now, unless we have reached the west, the whole is not traversed and measured out in 3 or 7 steps, gods etc, hence the *Chhandoga*

Brahman sits in the west, the region of *Varuna*, the heart, the seed, water and chooses only those *Mantras* from those *Mandalas* which give us Him in full measurements made in the heaven, in the mid-region, in the earth and in the human body, in different sciences and arts of life and death. These particular hymns, if properly studied will yield to us His complete measure for our self-realization.

Let us now identify the *Veda* with the Universe and the Universe with a Poem, with Poetry. Which are the limbs of *Veda*, Poetry, Universe, *Purusha ? Vak* or knowledge which at its highest is poetry. Six are the important *Angas*, Limbs of poetry etc. Of these the first is the *Prana*, the vital force, *Agni*, *nose*, the science of proper articulation and pronunciation. The body is alive, a-thrive, warm, breathing, radiating, reproducing. *Chhanda* is the science of prosody, the feet, the supporter of the order, the outermost, the metre; 'how long' in time and space. The feet is the Dhartri, Adhara, the tail as the *Chhandogya Upanishad* aptly puts it. It is on the feet of the metre that poetry moves; don't you see that we have feet and metre in English, as in Sanskrit, as the mysticism of Poetry? *Pada* is feet and we have *Vishnu* of three *padas* for Sun, for Time and *Pratipada* for constellations. It is Vishnu's *pada*, that we seek and worship for our salvation. Grammar is the face, it is the appearance; it is the conjunctions, relations of the order. It is by *Vyakarana* (distinguishing) that we understand Him and He manifests Himself in His Names and Forms. The Niruktam is the ear, the Sruti, the inspiration, the analytic vision for the reader as for the writer. *Jyotisha* is the eye, the angle of vision and *Kalpa* is hands, the art of poetry.

The identification of metres with goddesses and with time-phases or time measures I have outlined in this paper; in another paper, on the authority of the *Brihad Devata* I have given the Devata equations. Thus, we come to the following equations for say Soma etc., 5 out of 7.

=Agni=Gayatri=Anumati=Full-Moon Day
=Indra=Tristubh & (Pankti)=Raka=Bright fortnight.
=All-Gods=Jagati=Sinivali=New-moon day
=Soma=Anushtubh=Kuhu=Dark fortnight.
=Savitar=Usnihs=Savitri=Sun.

These are further to be equated with (5 out of) 7 horse-names (given in *Matsya*), 7 *Pranas* and 7 Chief *Rishis*.

The very first Rig-Vedic *Rishi*,* angle of vision, and the first god, identified with that Rishi through sacrifice, prayer, dialogue, eulogy, "composition", yoga, is *Madhuchhandas*, the sun of *Vishvamitra*. *Madhu* is sweet and as such it is the herb; the question is what is *Madhu* among different classes of beings, objects, ideas? An indirect answer is given by the Rig Veda when it says:

* Another meaning of root, Rishi is to wander about in happiness (*Matsya*, I, 336).

"May *Varuna*, the wise *Mitra*, *Aryaman* and the other *Devas* rejoice and lead us by the straight path. They are verily the distributors of wealth ; always careful to discharge their functions every day. May *Pushan*, *Vishnu* and the *Maruts* make us prosperous. For him who loves the truth, the winds bring sweet, *Madhu*, the rivers bring *Madhu* ; may the herbs yield sweet. May night and morn be *Madhu* to us. May the earth be full of *Madhu*. May Father heaven be also *Madhu* to us.

The Dictionary (Apte) gives the following meanings of *Madhu :* The spring or vernal season, the month of *Chaitra*, the name of a demon killed by *Vishnu*, name of another demon, father of *Ravana*, killed by *Satrughna*, the Asoka tree ; name of king Karta Virya. Madhu in space-time-object is vernal time, *Mathura*, Cuckoo, a lover a bee, the second *Bhumika*, a liquorice, the third day in the brigh half of Sravana.

This vedic *Madhu* in our life, is the Son, who is sweet to us, the earth, the *Anna* or food, the night and day, the river, the herbs, and of course our Father in heaven. *Agni* is the Son (and father) of Gods; hence it is meet that *Madhuchhandas* should glorify *Agni* ; the son of metres to glorify the son of gods; each measuring (metre-measure) the other, glorifying the other. Just as *Agni* is the son (and father) of gods so *Madhuchhandas* is the son of *Vishvamitra* who is both a Rishi and a God; thus in the very first Sukta of the Rig-veda there is germinally the entire mysticism of the Father-Son-Father which Christian mysticism prides itself upon. We have here besides *Madhuchhandas, Vishvamitra* and *Agni, Angirasa-Prana* as well. The number of Suktas is the " full number " of mysticism, 9. The " reversal " of time, of yoga and of prayer (*Uttarayana*, heliacal or acroynical rising, *Urdhvamukha* or *Viparitkarani* and *Upasana*) is mentioned in the 5th Sukta for after the 6th month the reversal occurs. Agni is the priest, the bringer of gods, the medium, the protector of sacrifices, the sacrificer, the attainer of knowledge, the receiver back as *Angiras* of the good bestowed on the sacrificer. the receiver of daily homage, the *increas* in his own dwelling. In the 9th *Sukta* which forestalls the ninth *Mandala*, *Purusha sukta*, it is said : "Agni, be unto us easy o access, as is a father to his son ; be ever-present with us for our good. Be ever present with us for our good." And this *Agni*, an *Angiras*, as *Vak*, as *Prana*, is the saviour of man for it is speech and mind united in sacrifice which lead us to the *Veda* and the Lord in our hearts. Who is this *Vishvamitra ?* He is the right eye and *Jamadagni* is the left. (*Br. Ar. Up.* 2. 2. 4.) This friend of the whole world is *Agni* and *Soma*, he is *Agnisoman*, he is Sun-Moon ; why need we call Him anything else but God, in his capacity as the friend of all of us, who has chosen through his son, *Madhuchhandas*, the Best-Poetry, revelation in ordered language, to reveal Himself, the

Father-Son, Agni, through glorification or hymning, for our benefit. It is in fact a case of the Father manifest in the Son, returning to Himself in the form of Son's Hymns to the Divine Father-Son=Agni. This hymning is seeing, vision and here *Madhuchhandas* gives us the best vision of Him as Agni, the heat, the throbbing, the reproduction, the electric charging, the radiation, the truth we call life. The Son is the Brahman, he is the sacrifice, he is the *Loka*, the world, says the *Brihadaranyaka Upanishad* The *Dakshina* and the *Dakshinayana* is the essence of sacrifice; it is the south, the faith, the heart, the yama. Their opposite is the North, the Soma, the *Diksha*, the Satya, the heart.

Madhu is dear, for it is sweet and as dear, it is *Prana, Brahman, Yajnas.* As to *Chhanda*, the *Br. Ar.* says (p. 661): *Chhanda* means desire, *Atichhanda* means transcending desire; *Swachhanda* is free and *Parachhanda* is dependent on other's will. *Madhuchhandas* is therefore dependent on *Madhu*.

Madhuchhandas is the first *Rishi* in the *Rig-veda*, so is *Madhusudana*, the first incarnation in which He kills the demon *Madhu*, sacrifices Him, measures him out. And this *Madhu* (and *Kaitabha*) is no other than the son, Soma, the self, the sweet one, the dear one, *Agni* to us, who has to be killed.

Indra's teaching of *Madhuvidhya* and *Pravargya-vidya* to *Dadhyak* also throws abundant light on our *Madhuchhandas*, son of *Vishvamitra*. Now this vedic *Dadhyak*, according to *Taitt. Samhita*, V. 6, 6, 3, *Agni* and *Atharvan* is Prajapati (*Prana = Angirasa = Vak*). Further, Prajapati = Sacrifice is both *Mrigasirsha* and the horse's head. (See *Ait. Br.*). This *Madhu* is (**E. I. A. M.*, I; p. 334) life of summer derived from the horse-head Belt, Orion; the horse is a metaphor for the immortal self of the knower. Sacrifice is the *Vajra*-weapon. The *Br. Ar. Up.* 1. 1., 1., equates bones with the stars.

* Essays in Indo-Aryan Mythology, Aiyangar.

Hand Manufacture of Paper

By V. S. KRISHNASWAMY, I. F. S.

THE following raw materials which occur in this presidency are suitable for making pulp and paper by hand processes.

1. *Cymbopogon coloratus.* (Tel : Botha) (Tam : Manjapullu) Mal : Ingipillu) Lemon grass.
2. *Hoteropogon contortus.* (Tel : Yerra gaddi) Tam : Oosipullu) Spear grass.
3. *Lantana.* (Tel: Gabbu ckeeki) (Mal : Arippu).
4. *Strobilanthes.* (Tel : Jiddu) (Tam : Kurinji) (Mal : Kurinji).
5. *Sanseviera zeylanica.* (Tel : Sagal) (Tam : Marul).

The raw material should be first dried and then pounded in the ordinary way in a mortar and pestle, which every Indian village house possesses. After it is pounded well, the weight of the material is noted. Then the material is soaked in water for about 24 hours and stirred at intervals, to dissolve all soluble non-cellulose matter. The material is then boiled in a caustic soda solution, which contains 12½% by weight of the raw material of caustic soda, i. e., if 8 lbs. of raw material is used one lb. of caustic soda should be taken for making a solution. While boiling, the raw material should be kept completely immersed in the caustic soda solution. Boiling should be done for nearly six hours. The caustic soda solution dissolves other non-cellulose matter in the raw material insolube in water. Boiling only hastens the process, else this process will take about ten days. Where Lantana and *Strobilanthes* occur, they can be used as fuel since they can be obtained at cheap or no costs from the forests and the unreserves of the presidency. The vessel should be either of iron or copper and must have at least double the capacity of the volume of material.

After boiling, the material is thoroughly washed in water a number of times. Then it is ground in a roller grinding stone which is available in every Indian house.

After grinding, the material will be reduced to a fine paste. This should be washed again and examined. If there is still some more undigested woody material caustic soda treatment should be repeated, but with a weaker solution, which contains 2% to 3% by weight of the raw material of caustic soda. In the case of Lantana and *Strobilanthes* this second boiling is often necessary.

After this second treatment by alkali, the material is washed and again ground in the roller grinding stone. The grinding should be

done well since fine paste is necessary for making good paper. This second grinding will not take much time. After grinding, the material is completely washed to remove all traces of alkali. What results is the unbleached pulp commonly called 'half.stuff.' It will be straw brown in colour and can be used for making cardboards, brown paper etc. But for making white paper, the pulp obtained should be bleached as follows:—

The bleaching agent used is either the common bleaching powder or "Perchloron." The latter is preferable, because it is three times more powerful. Bleaching should be done in weak solutions. If ordinary bleaching powder is taken, the solution should not be stronger than 4 to 5%. For Lantana the bleaching powder necessary will be nearly 8% by weight of the raw material. So bleaching should be repeated twice with a 4% solution.

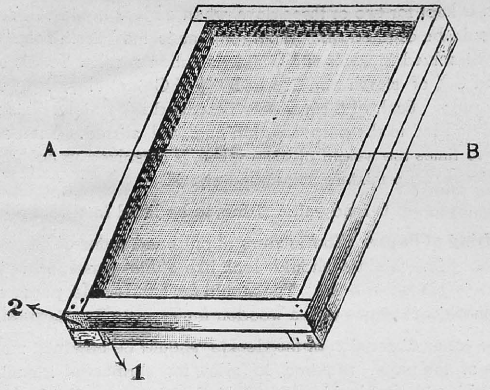
The proportion of "Perchloron" required is generally 2 % by weight of the raw material. This should be dissolved in 100 parts of water and used as the bleaching reagent.

For bleaching, only wooden or enamelled vessels should be used. The mixture of pulp and bleaching solutions should be stirred well at intervals of one hour. The pulp should be kept completely immersed in water. If two bleachings have to be done it will be advisable to repeat the alkali treatment with 1 % caustic soda, on the weight of material, in between the two bleachings. Bleaching will take between 12 and 24 hours.

After bleaching is finished, the pulp is washed well with water. An "antichlor" treatment will be necessary in spite of careful washing, to remove the residual chlorine, which will still remain. This is removed by Sodium sulphite or Hypo using about 0·1 % of either of the chemicals, on the weight of the material taken. The pulp should be mixed with the chemical, previously dissolved in sufficient water and kept for sometime—say about $\frac{1}{2}$ to 1 hour—and washed well. By following the above process, pure white pulp is obtained.

Paper made out of pure pulp is absorbent like a blotting paper and, therefore, it should be made non-absorbent. The process of making the paper non-absorbent is called "sizing". "Sizing" can be done at the pulp stage itself, by adding resinate of soda or after the paper has been made, either with a starch solution or a glue solution. The former is called "Engine sizing" and the latter "Tub sizing".

The engine sizing is done as follows: The resinate of soda is prepared by boiling a solution of soda ash, with rosin in the proportion of six parts of rosin, to one part of soda ash and 12 parts of water. The rosin should be 4 % by weight of the dry pulp. The soda ash is first dissolved in water and placed on fire to boil. Then rosin, previously powdered is added in small quantities, stirring at the same time.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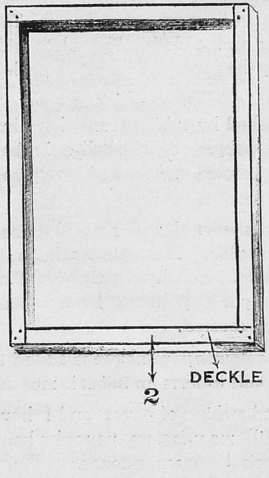
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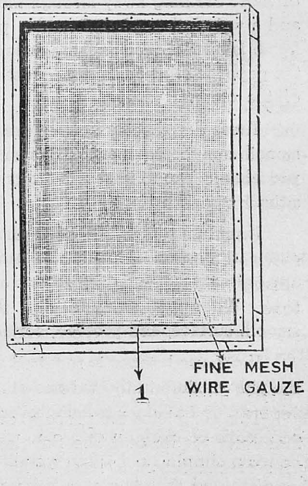

1
FINE MESH
WIRE GAUZE

At every addition of rosin, frothing will take place and this should be allowed to subside, before rosin is again added. After all the rosin has been added, the solution is boiled for 5 to 6 hours and from time to time, the water lost by evaporation should be made up. The boiled solution is kept for two or three days, when a black liquid will separate. This should be drained off. What remains is the "rosin soap". This soap is dissolved in water and a milky solution results. To this solution is added 5 % of starch and 7 % to 10 % of China clay, by weight of the dry pulp. Each of them should be added separately. This mixture is slowly added to the pulp solution and well stirred. Then common alum, five times the weight of rosin taken, is dissolved in hot water and added to the pulp mixture mentioned above.

Now the pulp is ready after sizing, to be lifted into paper.

Lifting of Paper. The mixture of pulp and water of the required consistency (the mixture should look like a thin gruel or buttermilk solution) is placed in a vat. The mould for hand-made paper consists of fine mesh wire gauze with a wooden frame as in the diagram.

The inner dimension of the deckle should be one inch more than the size of the paper required, to allow for shrinkage, trimming etc., The mould with the deckle forms a kind of wire cloth tray, which is dipped into the vat containing the pulp mixture and the required quantity of pulp is taken up, any excess being returned to the vat. A thin sheet of paper is thus formed on the wire gauze frame, the excess of water draining away through the meshes. The deckle is removed and a wet cloth is placed on the paper on the wire gauze frame. The frame is turned over and the paper falls on the cloth. The cloth with the paper is allowed to dry. When dry the paper can be easily peeled off the cloth.

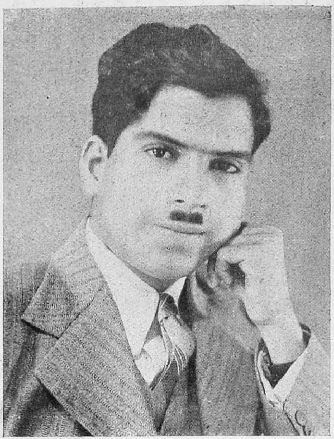
These dry sheets of paper are polished by rubbing any hard but smooth surface on them, e. g. a smooth pebble, conch-shell or broken porcelain. Then the sheets are pressed, sorted and reamed to required sizes.

If rosin sizing is not done, the dry sheets of paper may be sized either with a thin solution of starch or glue. The sizing solution is applied with a brush, first on one side and then when dry, to the other side. When both sides are dry, the paper is polished by any hard smooth surface, and pressed, sorted and reamed.

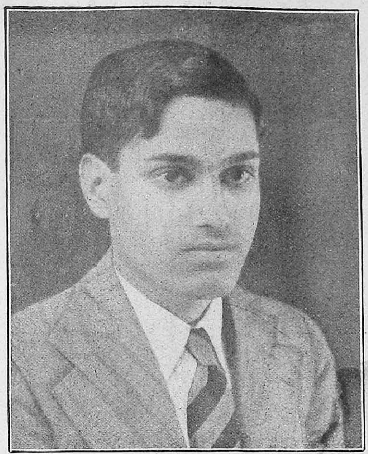
If coloured paper is required the colouring principle is added to the pulp mixture in the vat and stirred well to form an intimate mixture.

This completes the process of hand-making of paper and I hope that every reader of " The Scholar " will manufacture paper by hand processes sufficient at least for his personal correspondence.

WINNERS OF THE MAHARAJA OF TRAVANCORE CURZON PRIZE



Sri S. C. Pillai.



Sri T. R. Bhaskaran.

Winners of the Maharaja of Travancore Curzon Prizes

Messrs. T. R. Bhaskaran and S. C. Pillai were recently awarded these Prizes by the University of Madras for their researches in Agricultural Chemistry and Biochemistry respectively.

The Maharaja of Travancore Curzon Prize was founded by His Highness the Maharaja of Travancore, and is awarded by the Madras University in memory of the visit of Lord Curzon, Viceroy and Governor-General of India, to that State in November 1900 to encourage post-graduate studies mainly in scientific subjects bearing on the material prosperity of India.

Mr. Bhaskaran was awarded the Prize for his thesis entitled "Nitrogen Fixation in Soil and its Bearing on Crop Production." It is well known that when energy materials, such as carbohydrates are applied to soil, the nitrogen fixing bacteria utilise them and fix atmospheric nitrogen. The nitrogen thus fixed in the soil is, however, comparatively small and is not sufficient to meet the requirements of plants. It has not been possible to obtain more than one pound of nitrogen fixed for every 100 lbs. of carbohydrates applied to the soil even under the most favourable conditions. Biological fixation of nitrogen has not, therefore, so far found a place in regular agricultural practice. Mr. Bhaskaran's researches on the mechanism of nitrogen fixation in the soil has led to a new method of utilising carbohydrate materials by means of which it has been possible to increase the efficiency of nitrogen fixation three-fold. Thus, three pounds of nitrogen, instead of one pound, are fixed for every 100 lbs. of sugar applied to the soil.

Mr. Pillai was awarded the Prize for his researches on the biochemistry of tuberculation of water mains. In water engineering, the problem of corrosion of pipe material resulting in the formation of tubercles is of considerable technical and economic importance. As a result of tuberculation, the working life, and more especially the water carrying capacity, of pipes, is reduced to a great extent. It is reckoned that, within a few years after laying the pipes, the carrying capacity is often reduced by over 50 per cent, so that the efficiency of service suffers considerably especially at the farthermost points of municipal supply, and the annual loss to the Water Works Department through repairs and replacements on this account is often enormous. Mr. Pillai has, for the first time, shown that the formation of tubercles in water pipes is preceded by the internal corrosion of pipes and is closely associated with the occurrence of a unique type of bacterium which he has isolated from the tubercles. The presence of this bacterium is essential for the formation of tubercles. From a study of the physiological characteristics of this organism, he has suggested a method of treatment of water by means of which the formation of tubercles in the pipe is prevented. This method has been adopted in the Trivandrum Water Works for the last few years and since then no formation of tubercles has been observed.

12664

"SRI SANKARACHARYA"

Sri Sankaracharya's is an inspiring name in the field of religion and he is familiar as the one who developed the Advaita philosophy. Precocious as a boy, he lived only upto 32, within which short period he achieved the stupendous task of rejuvenating a decadent religion.

His life is full of miracles. At his call, the great mother Ganga let one of her tributaries flow just in front of his house, to save his aged mother from the agony of a tedious walk. Accepting a little fruit from a poor Brahmin woman, he blessed her and ere he had disappeared, the lady found herself in a castle of gold.

But by far the most remarkable incident of his boyhood is the unique circumstance in which he turned a Sanyasi. His mother would never allow him to take to Sanyasa. One day when young Sankara was bathing in the river, a crocodile caught hold of his feet and dragged him into the water. Sankara cried out to his mother and begged her to permit him to become a Sanyasi at least then, as he was sure he was going to die. The mother granted his request and Sankara turned a Sanyasi after escaping from the clutches of the crocodile.

The wanderings of Sri Sankara during the early sixteen years of his life are crowded with many thrilling episodes. When the Narmada was in high floods and threatened a deluge, Sri Sankara sealed up the whole water in his Kamandal and stunned his own master Govindapada with awe. At Benares, he wrote out his commentaries for the Vyasa Sutras and Upanishads. The Sage Vyasa who visited him marvelled at the precocious powers of the youth and blessed him with further life for sixteen years. Sankara travelled throughout the length and breadth of India, and conquered heretics by his matchless powers of eloquence and argument. The most formidable personality Sri Sankara had to encounter was Mandana Misra, the redoubtable Karma Yogi. It was a battle royal which Sankara waged with this materialist. Sankara established his doctrine of Advaita as the supreme path to salvation and won over Mandana Misra and his whole sect to his side. He had an equally thrilling experience with the heretic Kapalis and rescued a young woman from their orgies. From there he proceeded to Sringeri, where he established the great Sringeri Pitha. Here again he had a thrilling experience. Another heretic, Ugrabhairava, attempted to kill him by manouvere—but was foiled by the timely intervention of Sankara's favourite disciple, Padmapada, who assumed the Narasimhavatar and smashed the assailant to pieces. He also established *mutts* at Badri, Jagannath and Kashmir and finally reached Kanchi. Here he established the Sarvagna Pitha and sent out his prayer that his great doctrine of Advaita may live eternally as the beacon light to a fallen world.

Sri Sankara is undoubtedly the greatest builder of the Hindu Church and filming his life, Aurora have taken all care to represent him in an authentic and realistic background. Director Jagadish Chakravarti has included in the picture the actual location "shots" of Kaladi — Sankara's birth-place, Sringeri, Kanchi, etc., the chief centres of Sankara's activities.

Great care has been taken in the matter of casting and both master Rajagopalan and V. N. Sundaram, who share the title role, have done their parts admirably — Premavathi, Durga Devi, S. P. Mathuram and many other talented artists forming a strong supporting cast. The tuneful songs of Papanasam Sivan and inspiring dialogues of Srivatsa Sarma make the picture a real entertainment throughout.

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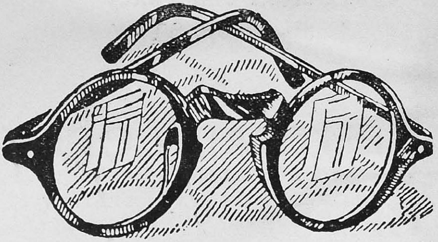

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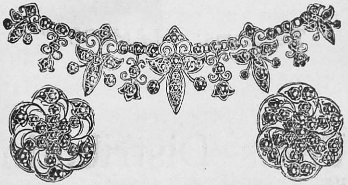

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